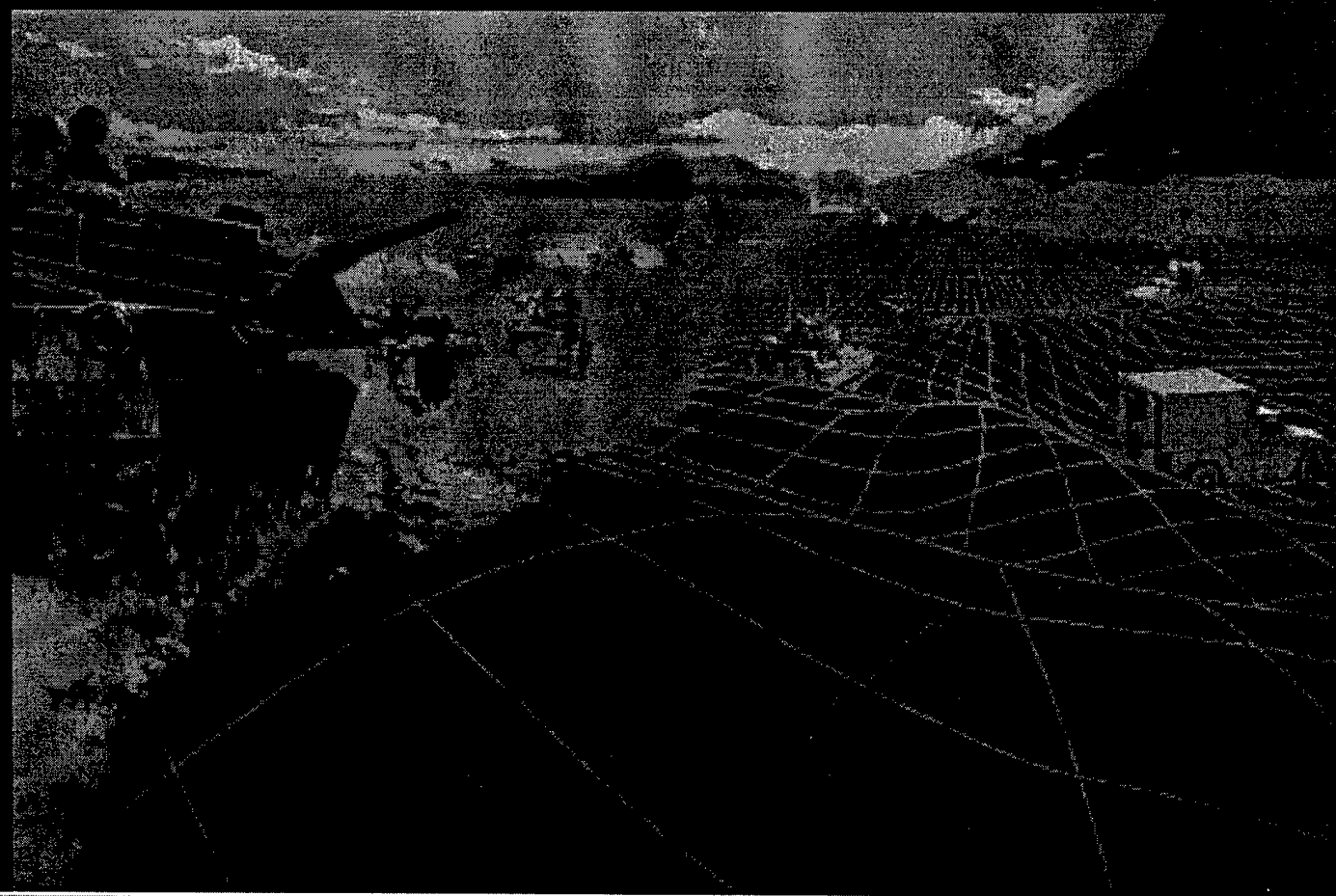
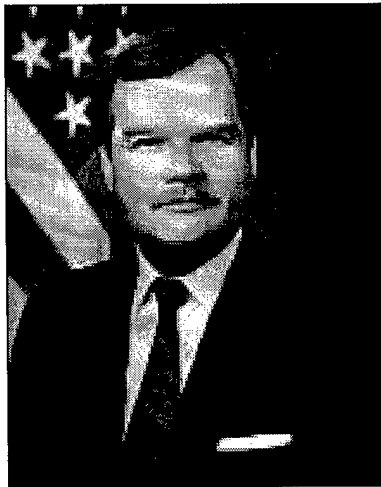




RD&A

THE ADVANCED WARFIGHTING EXPERIMENT





From the Army Acquisition Executive. . .

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AFTER THE TASK FORCE XXI ADVANCED WARFIGHTING EXPERIMENT *The Road Ahead*

America's Army is on the leading edge of change. We are transforming an army currently equipped, trained, and operating with Industrial Age technology into a force that takes full advantage of everything the Information Age offers. Our pathway to change is the Force XXI process, an interactive and linked series of evaluations, exercises, and experiments to help build the Army of the 21st century.

The initial product of the Force XXI process will be Army XXI—a versatile Army with the capabilities America will need early in the next century. Army XXI, we believe, is the stepping stone to the Army of the future—a logistically unencumbered force with greater lethality, versatility, and strategic and operational mobility. We envision a new battlefield where information is gathered, processed, and used differently than ever before.

Central to our developmental work is a series of Advanced Warfighting Experiments (AWEs) focused on specific improvements in doctrine, training, leader development, organizational design, materiel, and soldier system requirements. The Experimental Force, the EXFOR, a brigade-sized unit cut out of, but not separate from, the 4th Infantry Division at Fort Hood, Texas, is our primary experimental vehicle. Using digitally enhanced troops and weapon systems, the EXFOR completed the brigade-level AWE, Task Force XXI, at the National Training Center in California last March. We installed almost 5,000 pieces of equipment on over 900 vehicles in the current inventory, including 1,200 appliqué computers. Essentially, we took a mountain of communications equipment and put it on existing tactical vehicles and on our soldiers and moved it around the battlefield. We also linked the communications so that commanders and soldiers at all levels would know what they needed to know to fight and win. A division-level AWE, Division XXI, will be held this November.

Task Force XXI gave us a good look at the future. We saw the battlefield in new ways. We learned lessons on a daily basis. And, we moved further down the road to our goal for Army XXI, which is information dominance. Digitization or equip-

ping our battlefield systems to transmit, receive, and display digital data, is fundamental to gaining information dominance.

Systems or pieces of equipment were probably the most obvious of the designs and concepts tested during the Task Force XXI AWE. There were a lot of them that worked very well such as Apache Longbow and Javelin. The Unmanned Aerial Vehicle (UAV) was a clear success in its reconnaissance role. And, its power was multiplied when effectively combined with other reconnaissance assets such as scouts and helicopters, the Joint Surveillance Target Attack Radar System, and signals intelligence. Those assets allowed the UAVs to play vital roles in linking the sensor to the shooter.

Systems within the air defense artillery architecture—ground based sensor radars, slew-to-cue Avengers, the Bradley Linebacker, and FAADC2I (Forward Area Air Defense Command, Control and Intelligence)—were clear winners. They provided great advantage for the EXFOR against enemy air by providing early warning and cueing the operator and slewing the weapon to incoming enemy aircraft.

Effective situational awareness was the most significant achievement demonstrated. Appliqué provided users with a visual representation of their own location and other similarly equipped platforms through the tactical internet. Radio nets were free of voice communications transmitting the location of operations centers, rendezvous points, supply points, and so on.

The final outcome of the analyses from the AWEs, particularly Task Force XXI and Division XXI, will directly affect the Army modernization program for several years to come. Based on initial results of Task Force XXI, there are about a dozen candidates for the warfighting rapid acquisition program. These initiatives demonstrated great potential for accelerated procurement.

Throughout history, America's Army has been the force of choice to fight and win our nation's wars. This fact will not change in the 21st century. The future Army will provide our soldiers with unprecedented technological advantages, but, even in the Information Age, war will remain a human endeavor. Successful military operations require the complementary capabilities of all the services, but control of the land is essential to America's availability to prevail. We are working hard today to maintain land force dominance well into the 21st century.

ROBERT M. WALKER
Army Acquisition Executive

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Research Development Acquisition

ARMY RD&A

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The Army's use of Advanced Warfighting Experiments is helping define and develop Army XXI and determine the synergistic value that digitization provides.

Update On Army Battlefield Digitization. . .

POST TASK FORCE XXI ADVANCED WARFIGHTING EXPERIMENT

By COL Steven A. Emison

Author's Note: The following article was compiled from various sources and observations by the Army Digitization Office.

Introduction

The Army must stay ahead of changes in warfare, as the world enters the information age. Current capabilities allow enemy detection and subsequent engagement at ranges greater than ever before, largely because of advances in the speed and miniaturization of data processors. The Army of the future—Army XXI—must harness the power of information processing technologies with evolving doctrine and organizational development to ensure decisive victory in any future conflict. Digitization is the information technology cornerstone to making that a reality.

Digitization

Digitization is the application of infor-

mation technologies to acquire, exchange, and employ timely battlefield information throughout the entire battlespace. Mature digital technologies and appropriate tactics will enable Army units to have the right information at the right place at the right time, thereby reducing the "fog of war," decreasing decision-making time, and massing force effects. Effective digitization will require interoperability, built on a common set of standards and protocols, in order to provide a fully integrated command and control capability. Initial materiel developmental efforts have focused on implementing commercial technical standards and protocols similar to those used by the commercial Internet, and on the ruggedness and applicability of off-the-shelf hardware.

The Army is using a series of Advanced Warfighting Experiments (AWE) to define and develop Army XXI and to determine the synergistic value that digitization pro-

vides. These experiments examine all aspects of doctrine, training, leader development, organizations, materiel, and soldiers (DTLOMS). Although integrating the digitization materiel solution and determining its subsequent impact is just a piece of Army XXI, expectations are that digitization is a combat force multiplier that will significantly enhance lethality, survivability, and operational tempo. Early experimentation, modeling and simulation results support these expectations through indications that digital forces can maneuver more quickly and engage the enemy more decisively.

4th Infantry Division AWE

Following more than a year's preparation, the soldiers from the 4th Infantry Division completed the Task Force XXI AWE in March at the National Training Center (NTC), Fort Irwin, CA, during rotation 97-06. The AWE included a series of

Digitizing the Battlefield is the application of information technologies to acquire, exchange, and employ timely digital information throughout the battlespace, tailored to the needs of each decider (commander), shooter, and supporter...allowing each to maintain a clear and accurate vision of his battlespace necessary to support both planning and execution.

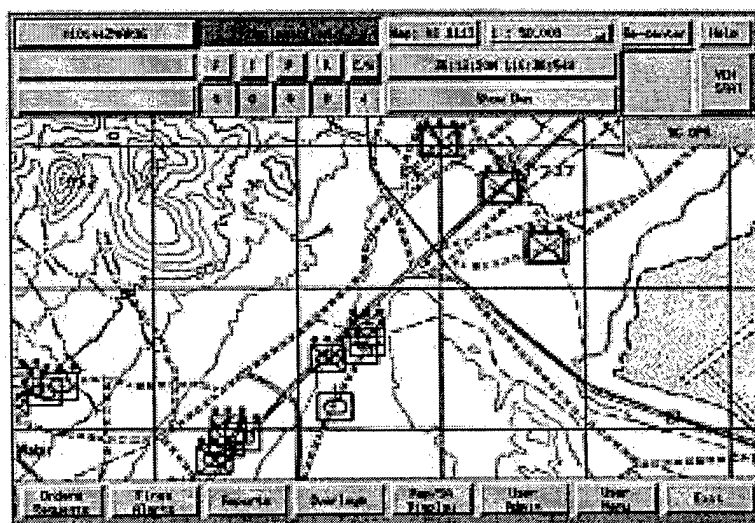
successive training exercises spanning nine months that allowed the Army to experiment with a new division design and to gain insights into the interoperability and synergism of more than 50 different warfighting and information systems that involved all battlefield operating systems. The AWE was not about winning or losing individual battles with the highly skilled opposing forces (OPFOR) in the desert at Fort Irwin. Rather, it was about Army XXI — how our soldiers will be organized, trained, and equipped in the next century. The AWE process is a model for benchmarking and validating change. This article provides an overview of the digitization portion of that process.

Purpose

Task Force XXI AWE focused on gaining insights on how the Army should redesign itself to fight future battles. The experiment was designed to instruct and inform. Negative and positive results were equally valued and necessary to achieve insights into Army XXI. Independent analytical agencies have documented that the AWE process can shorten the early stages of the acquisition process. Placing equipment into the hands of troops earlier under realistic combat conditions helps shorten the iterative system and combat developmental cycles. However, AWE conduct to date highlighted several shortcomings that suggest they may not be suitable—by themselves—to satisfy statutory test and evaluation requirements. Robust analysis of data collected during these experiments must clearly show that a system is effective and suitable for combat fielding. Independent agencies, like the Director of Operational Test and Evaluation, require structured experiments or tests that can isolate what factors impact system performance and what effect those factors have on system and force effectiveness. To ensure these requirements are satisfied, a series of focused developmental and operational tests will occur, beginning in FY98, timed to coincide with release of each new developmental version of software and hardware. The purpose of these early tests is to reduce risks associated with cost, schedule, and performance in accordance with Department of Defense acquisition streamlining initiatives.

Technical Support Facility

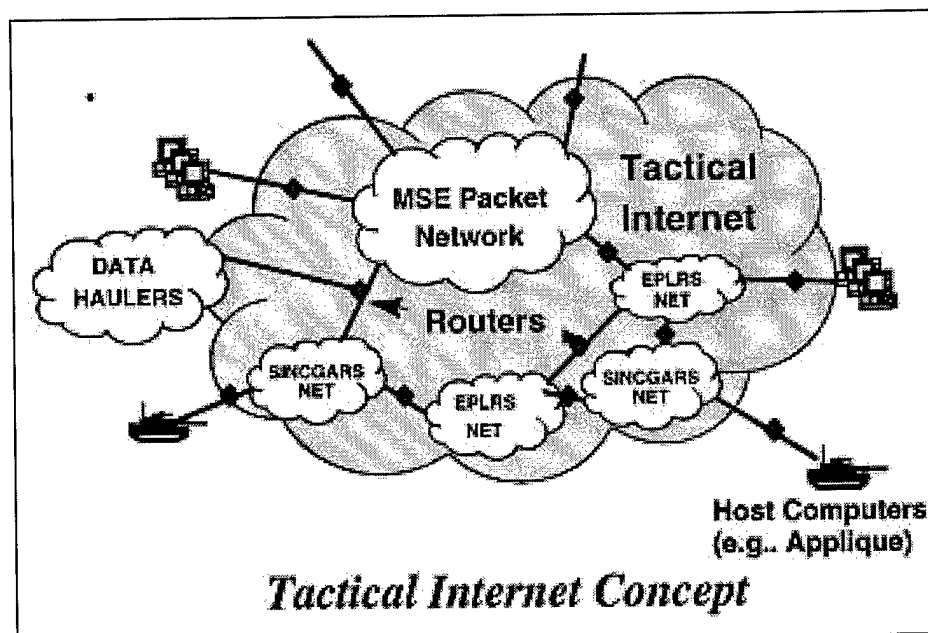
The developmental process demonstrated during the experiment is an example of successful acquisition streamlining. Compression of this process was possible through lots of teamwork and cooperation across many government and indus-

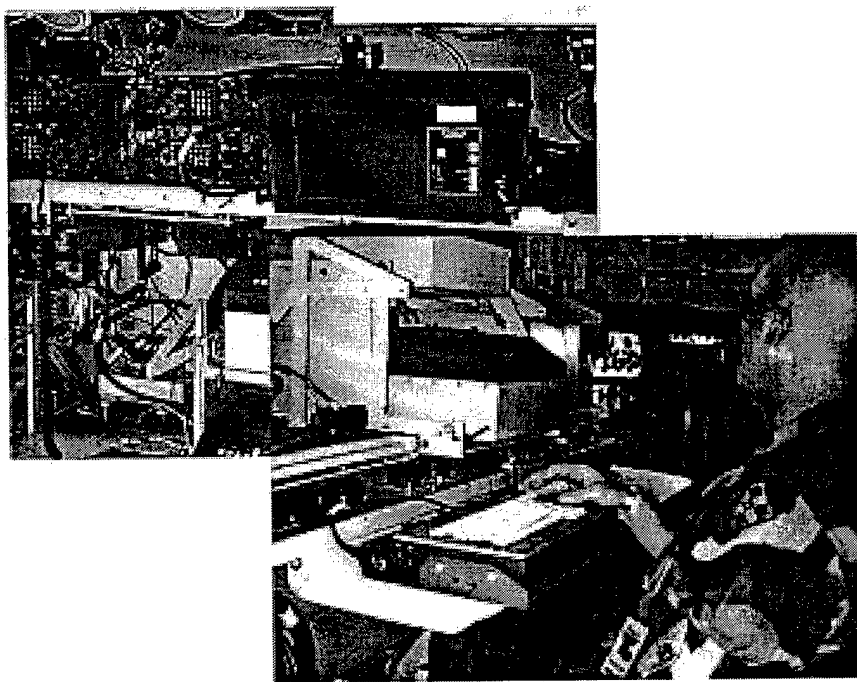


- **Where Am I?**
- **Where Are My Buddies?**
- **Where Is the Enemy?**

try organizations. Everyone involved with Task Force XXI was committed to the goal of making the process work and the equipment interoperate. The Central Technical Support Facility (CTSF) was an important innovation that fostered many of the interoperability achievements. The CTSF, composed of engineers, technicians, and soldiers, replicated the com-

mand and control equipment installed in the brigade and battalion tactical operations centers. Interim software releases were vetted by the CTSF operators to ensure that the "system of systems" operated correctly before issuing it to soldiers. The ability to quickly troubleshoot many systems in one location greatly reduced the time to resolve trouble





4 ID Soldier working with digital keyboard

reports and maximize the unit's training time. The CTSF also enhanced new equipment training and tactics, techniques, and procedures development, as well as controlled software configuration management.

Battle Command, Brigade And Below

Although the Army has fielded digital systems for years, the key to future digitization at the lower echelons is called Force XXI Battle Command, Brigade and Below (FBCB2) and the requisite communications infrastructure is known as the Tactical Internet. The development of these capabilities must be closely synchronized and integrated with the technologies that will rely upon it.

The early prototype of FBCB2 was the "Appliqué"—so named because the original vision was to add this computer to existing systems as the most cost efficient and timely solution to enhancing our future force. FBCB2 is not your typical "system." Rather, it is the synergistic integration of existing systems such as communications and weapons platforms, designed to enhance the commander's ability to command and control his tactical forces. The commander has certain processes (such as intelligence preparation of the battlefield, courses of action wargaming, and deliberate military deci-

sion making process) available to him today to assist in commanding, controlling, and synchronizing his forces. Digitization is merely a technical enhancement to automate many of these processes designed to shorten his decision making cycle yet help him make a more informed, quicker decision as he prosecutes his portion of the battle. The technology does not replace soldiers; it is an enabler only if it makes the task easier and makes leaders and soldiers more effective and more responsive.

Results

Results from the AWE strongly support the potential of digitization to provide improved situation awareness, and have also identified a number of challenges to providing this awareness in the variety of complex, often intense, combat-soldier environments. The successful Blue situation awareness picture from Appliqué provided leaders the ability to see where and how friendly forces were arrayed throughout the battlefield. Commanders at all levels are unanimous in their opinion that situation awareness is a tool that the Army needs. Appliqué enhanced the commander's ability to see the battlefield, but it is not a substitute for his "being on the ground."

The continuing theme throughout the experiment was that Appliqué and

Tactical Internet digitization showed potential, but Appliqué and Tactical Internet require more developmental work and focused testing before they are ready to be fielded to units. Situation awareness messages were timely (usually one second or less) and accurate (normally within 10 meters), but low system reliability affected soldier confidence. Command and control message preparation times were too long, and only limited connectivity was demonstrated (under 30 percent message completion rate). Network management was not robust, and system administration and maintenance capabilities were immature. Current versions of Appliqué are not sufficiently rugged for combat vehicles, nor are they well integrated into the overall fighting systems. Furthermore, digital traffic reduced the range of voice communications. These shortcomings result in soldiers preferring to use voice communications for timeliness, content, and context. Accordingly, the formidable task of integrating many disparate communications devices, command and control systems, routers, gateways and computing devices into a seamless "Internet" analogous to the commercial Internet must be matured.

Training Future Leaders

Another outcome indicates improved situation awareness does not necessarily lead to better situation understanding. Battlefield command, with Force XXI technology, has great potential but demands radical new thought in how we train future leaders. The endstate of digital capability is not situation awareness—it should be a vastly improved ability to command in battle. This improved ability results in more pertinent information available for mission analysis, better management of tactical forces, and greater focus on the enemy.

As the power and application of technology evolve, leaders must be cognizant of the potential for information overload. The Task Force XXI staff appeared to take extraordinary time to consolidate, correlate, and integrate the many sources of information. Commanders must visualize the battle in advance in order to articulate clear guidance and to focus subordinates. Leaders often did not know what they wanted to do until they saw it during the fight. Addressing schemes and filters at various echelons will help restrict data flow as digital doctrine and tactics, techniques, and procedures mature through the experimentation process. But as in an analog unit, the battlestaff must know what the commander's basic critical infor-

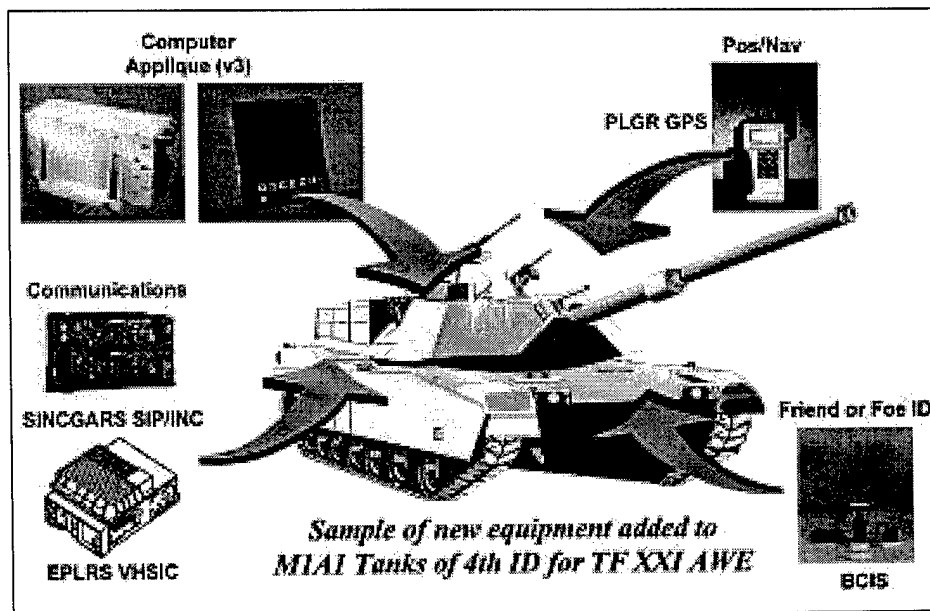
mation requirements are and what to do with that information once received. The ability to see through the confusion to act decisively given minimum information has always been a requirement for effective combat leaders.

Challenges

There is a limit to what digitization can do in the near term. Command remains an art and, as such, requires certain intangible traits that digitization cannot replace. For example, when in contact, platoon and company commanders prefer to use voice rather than digital communications. Leaders with experience know you cannot fight a close-in fight from a keyboard; voice is faster and provides an intangible element that does not come with digitization. With the continued requirement for voice, the materiel developer must solve the challenge of dual use of SINCGARS without degrading its use in either voice or data mode.

Another challenge to digitization is to develop a system that can withstand security network intrusions. Digitization is just like any other information system. Whether it's moving electronic mail, completing an electronic banking transaction, or electronically disseminating military command and control orders, each is subject to hackers, viruses, and other types of network intrusions. The Army must understand these vulnerabilities and the limitations of the various information systems and implement appropriate security measures to minimize the probability of compromise or corruption of the information network.

The Army contends that improved situation awareness will assist in the reduction of fratricide. The scope and design of TF XXI did not allow the Army to prove or disprove this contention. The Appliqué and Tactical Internet did provide adequate visibility and speed of service for battalion and brigade-level front line traces and battle tracking, but did not reduce unit fratricides as expected. However, anecdotal evidence suggests situation awareness was used to successfully avoid potential fratricide. Reduced planning times, shared battlespace, continuous operations, and the differences between the baseline and the AWE rotations make it difficult to infer the causes of these fratricides. The fact remains that situation awareness is a passive method of fratricide reduction and cannot totally replace a query/response system that will instantaneously identify friend or foe. Further analysis is required to resolve the fratricide issue.



What's Next?

The conclusion of the TF XXI AWE signals the transition of FBCB2 development from an experimental approach to a more deliberate, but still streamlined, acquisition approach that supports fielding the first digital division in FY00. The AWE proved out the concept that digitization could be a powerful force multiplier. Now the materiel developer is challenged to correct the shortcomings identified in the prototype hardware and software and ensure an effective and suitable system is fielded to the soldier. This development is highly dependent on the ability to synchronize many programs across program managers, as well as program executive offices. Challenges to the successful fielding of FBCB2 include synchronization with the developing tactical internet, development of a robust network management capability, seamless interoperability with the Army Tactical Command and Control Systems, integration of FBCB2 into platforms with existing digital battle command capabilities (such as the M1A2 SEP tanks and M2A3 Bradleys), and development of adequate security measures.

The Army's holistic approach to battle-field digitization has concurrent activities taking place in the Training and Doctrine Command. Its various schools and centers are using experience gained from TF XXI to revise the requirements' documents and further refine training, doctrinal and organizational impacts attributed to digitization and the resulting information operations it supports.

Conclusion

The FBCB2 program is forging ahead using a two-phased milestone I/II review. The Phase I review in July authorized movement into the Engineering and Manufacturing Development stage. A Phase II review in November of this year will allow course corrections to the program based on approval of the Operational Requirements Document and the Test and Evaluation Master Plan, completion of the Analysis of Alternatives and agreement with other affected system program managers. The challenges are many. However, continuation of the cooperative working relationships forged during the AWE between materiel and combat developers, using units, testers, contractors and Department of the Army elements will ensure our soldiers have the most effective and suitable command and control system that's achievable. The Army digitization effort, heavily dependent on commercial standards, protocols, and off the shelf hardware, is closely joined with commercial industry to lead the Army into the information age.

COL STEVEN A. EMISON was Chief of Requirements and Evaluation in the Army Digitization Office when he wrote this article. He holds an M.B.A. degree from the University of North Alabama.

OFFICER PERSONNEL MANAGEMENT SYSTEM XXI

What Does It Mean For The Army Acquisition Corps And Your Future?

By LTC Donald J. Burnett

Introduction

America's Army must have leaders at every level prepared to meet the challenges of the future. They must possess the requisite professional skills, understand our society and the world in which we live, and embody the values essential to providing our soldiers and the nation with unsurpassed military leadership. With that in mind, last July the Army expanded its overall Force XXI review to include a thorough review of the Army's Officer Personnel Management System (OPMS).

GEN Dennis J. Reimer, Chief of Staff of the Army (CSA), chartered the OPMS XXI Task Force (TF) and selected MG David H. Ohle to head the year-long effort. Implementation of the revised OPMS begins Oct. 1, but will take place gradually over the next five years.

This article outlines the background, the basic recommendations of the OPMS XXI task force, and the impact of those recommendations on Army Acquisition Corps (AAC) officers.

Background

OPMS XXI is the third major officer personnel management study since the Army

War College's 1970 study on professionalism. The first two studies—OPMS I and OPMS II—were conducted in 1971 and 1983, respectively.

OPMS I recommended the centralized command selection process, designated command tours, primary and secondary specialties for officers, and abolished the Chemical Corps. The changes were fully implemented by July 1974.

OPMS II established single branch development; functional areas, not related to any branch; multiple career tracks; and a revised officer classification system. The results of this study were approved in 1984, and implementation has been taking place since 1985.

Several significant events have occurred since the last formal study of OPMS in 1984. The most important of these have been the 1986 Goldwater-Nichols Act, the formation of the Army Acquisition Corps in 1989, and congressionally-mandated support to the Reserve Component in 1992. Requirements generated by these mandates, in combination with the Army drawdown over the past six years, have created significant internal

challenges to the management and development of the officer corps.

Last year, the Deputy Chief of Staff for Personnel's Precursor Study Group (PSG) examined nearly 60 issues across the entire spectrum of OPMS responsibilities—from questions about manning and inventory to those about assignment management and leader development. The PSG considered issues of major concern today and those with potential ramifications for the future.

MG Ohle organized his task force into three major divisions based on those PSG issues—structure and distribution, leader development and training, and career management. An operational research and system analysis cell; operations, plans, and initiatives cell; and administrative support team rounded out the task force. In all, 32 officers from each branch and/or functional area employed their individual and collective expertise and leadership experience to:

- Provide an assessment of how the officer corps, in a dynamic, more technologically advanced Army, should be organized as a full-spectrum force to meet national security needs both in the near term and well into the next century;
- Describe reasonable career expectations for the officer corps given force structure changes and resource considerations;
- Develop viable career paths that provide opportunity and choice while balancing branch, functional area and branch immaterial assignments across all grades;
- Determine the proper relationship among military education, advanced civil schooling, self-development and assignments, taking different career paths into consideration; and
- Develop an integrated, disciplined system that anticipates and balances the competing demands of leader development requirements, authorizations, law and policy.

The OPMS XXI Task Force began by looking at the current system and changes which have occurred in the Army since its implementation. These changes, generated by force reductions, declining resources, increased statutory requirements, unit OPTEMPO, and the explosion of information age technology, just to name a few, placed undue demands on the Officer Personnel Management System. The question followed: Is the current system adequate for today's environment, and can it meet the needs of the future? The task force concluded...it cannot.

To help shape the officer corps for Army XXI and the Army After Next, the task force developed a three-part design criteria with the following basic attributes:

1. Enhance the **warfighting capability**

of the Army.

- Increase MAJ "BQ" (branch qualification) time.
 - Reduce turbulence for the Operations career field.
2. Provide all officers with a **reasonable opportunity** for success.
- Increase promotion opportunity.
 - Increase command opportunity.
3. **Balance grades and skills** at the field grade level.
- Reduce the need for officers to fill positions in the next higher grade.
 - Increase level of fill.
 - Improve colonel-level experience.

Basic Recommendations

After an October brief to the CSA, the task force began developing the characteristics of the next OPMS, defining the problems and designing options for a new Officer Development System (ODS). In January, MG Ohle briefed the CSA and the Board of Directors—a group of Title X four-star generals—on four possible options.

Those options ranged from simply "tweaking" the current system to organizing the Army competitive category into four distinct career fields and assessing officers from point of commission into these career fields—personnel management groupings, for promotion and development purposes only, of similar functions and disciplines aligned with the battlefield outlined in *Army Vision 2010*.

In April, after another in-progress review, the CSA asked the task force to further develop two of the options. Both options imply few changes to company grade officer development and personnel management and follow the same "path" until an officer is selected for major.

The first option contained three career fields to which officers could be assigned: the Operations, Information Operations and Institutional Support career fields (formerly called Army Management). The second option, which was subsequently approved by the CSA for detailed development, added the Operational Support Career Field (OS CF). A description of each career field (CF) follows:

- The **Operations (OP) Career Field (CF)** supports organizational units with officers qualified by training, education, and experience in Army operations. It is composed of officers in the Army's 16 branches and two functional areas, FA 39 (PSYOP and Civil Affairs) and FA 90 (Multifunctional Logisticians).

Officers in this career field will retain a functional area for the remainder of their careers, even if they never serve in it. This functional area will indicate special aptitudes and skills that may provide flexibility for future duty assignments at the field-grade level.

- The **Information Operations Career Field** responds to the requirements of the 21st century information age. The

Information Operations career field brings together related disciplines with associated functional areas and creates new ones. The officers in this career field, as with the other specialty career fields, Institutional Support and Operational Support, continue to be assigned across the Army in TOE and TDA organizations performing a wide variety of Information Operations missions and tasks.

The functional areas in this career field are FA 30 (Information Operations); FA 34 (Strategic Intelligence); FA 40 (Space Operations); FA 46 (Public Affairs); FA 53A/B (Systems Automation Officer); and FA 57 (Simulations Operations). The Information Operations career field has four new functional areas—FA 30, FA 34, FA 40, and FA 57.

- The **Institutional Support (IS) Career Field** focuses on the increasingly technical and complex nature of running the Army as an organization. The emphasis in this career field is management, planning and programming of Army resources, both near-term and into the future years by projecting requirements and developing capabilities in the mid- and long-term.

The functional areas in this career field are: FA 43 (Human Resource Management); FA 45 (Comptroller); FA 47 (US Military Academy Permanent Associate Professor); FA 49 (Operations Research/ Systems Analysis (ORSA)); FA 50 (Strategy and Force Development); and FA 52 (Nuclear Research and Operations). The Institutional Support career field has two new functional areas—FA 43 and FA 50.

- The **Operational Support (OS) career field** strengthens current readiness while building the future force through its liaison, procurement, program and development specialties. This career field contains the Army Acquisition Corps, which includes FA 51 (Research, Development and Acquisition), FA 53B/C (Systems Automation Engineering/ Acquisition), and FA 97 (Contracting and Industrial Management); and FA 48 (Foreign Area Officer).

The task force developed these career fields by grouping interrelated branches and functional areas into management categories. Each career field has its own distinct development track. Although details are pending, a key feature is promotion competition only—at least for branch or functional area requirements—with other officers in the same career field. This will end the "dual tracking" promotion system of today in which an officer counts both within his branch and functional area for promotion. There will also be opportunity, indeed in some cases requirements, for assignments outside of one's branch or functional area into functional integrator billets (formerly immaterial) in order to provide breadth to an officer's experiences, meet organizational and statutory needs, and provide ODS itself with a measure of system flexibility.

*Assignments
in materiel
fielding,
divisional
or corps
force
modernization,
contingency
contracting
at division,
corps,
or Army
level,
and operational
testing
help
keep
AAC officers
current
in
the
operational art
and
sensitive
to the needs
of the warfighter.*

Next, the task force developed a strategy for the Army to implement these changes, and presented its final recommendations to the CSA in July. The task force is scheduled to publish a final report in September and produce a plan and materials for educating the officer corps.

The Army will be unable to implement every piece of the new officer development system this coming fall. Some key pieces of the plan will take place almost immediately; other facets will take longer, either because the time required for implementation will be lengthy or the exact direction the Army should take will still be unresolved.

To account for longer-range objectives and required decisions over the coming year, the task force is building an adaptable plan. Key pieces of the plan will be officer development action plans (ODAPs). Each ODAP will group sets of

related issues for further development, decision or implementation in a logical sequence that is synchronized with other affected ODAPs.

Additionally, each ODAP will have a proponent charged with executing that ODAP and monitoring its progress. Further, ODAPs will include a long-range piece that identifies potential events or actions that could trigger the Army to change how it implements the ODAPs or completely alter the nature of the ODAP itself.

Underpinning all these plans will be an annual process to review the progress of each ODAP and address whether the ODAP needs to be changed. A transition team of current task force members will remain behind to oversee the implementation of the new system and ensure a smooth "hand off" to proponents.

AAC Impacts

What do the OPMS XXI recommendations mean to Army acquisition and, in particular, its military component? To answer that question, it is important to understand the built-in responsiveness to change and the iterative nature of the task force's recommendations for implementation and assessment. As conditions and circumstances warrant, the flexibility inherent in the OPMS XXI vision for change will be self-correcting and mitigate what may initially appear to be intractable issues. However, we recognize that there are now, and will be in the future, concerns and impacts to be addressed. Brief descriptions of known impacts follow.

We know that the constituent parts of the Operational Support career field itself, FAOs and AAC, have functional and developmental differences that need to be taken into account even though both groups support the operational force and have similar objectives based in both policy and statute for promotion and retention. The approved Operational Support career field proponent, Army Materiel Command, will be working, in part, through the ODAP process, with each FA proponent and other CF proponents to develop coherent positions and solutions as OPMS XXI evolves.

The current initiative to form a single functional area 51 (SFA 51) from FAs 51, 53(-), and 97 with areas of concentration will be unaffected and actually clarifies existing authorization document disconnects. SFA 51 will be a plus when it comes to another major facet of OPMS XXI, the alignment of structure (spaces) with inventory (faces). AAC already has the Military Acquisition Position List process in place to validate AAC position requirements and keep Functional Areas and grades in balance. The AAC has asked for relief from other Armywide efforts to reduce authorization and grade structure because of negative impacts for a segment of the force which is already requirements based.

OPMS XXI supports the Acquisition

Career Management Office initiative to broaden AAC officer service in selected functional integrator positions to enhance operational experiences at the grade of major. Assignments in materiel fielding, divisional or corps force modernization, contingency contracting at division, corps, or Army level, and operational testing help keep AAC officers current in the operational art and sensitive to the needs of the warfighter.

The task force is sensitive to concerns that officers in these assignments not be disadvantaged by other than AAC senior raters. While no guarantee exists, assignments of officers from two or more career fields to the same TOE/TDA organization will be the norm. It is our belief that above-center-of-mass performance will be recognized and rewarded by informed senior raters, regardless of CF affiliation.

AAC accessions will continue to represent the entire spectrum of the force at the grade of captain and will essentially be unchanged; however, details of career field designation timing and opportunity for later accession are still being worked. Downstream crossovers from other career fields will be rare.

Continuing professional military education (PME) for officers throughout their careers is an important part of developing officers and creating learning organizations. The value of cross-fertilized career field participation in future PME is recognized. AAC officers can be expected to be represented in various PME alternatives, including a task force recommended Command and General Staff College (CGSC) MEL 4 resident experience for all. Participation in basic and more advanced acquisition training will continue for AAC officers to meet our unique professional education and experience obligations. Other unique AAC initiatives, such as the AAC Focus Program at CGSC at Fort Leavenworth, also remain to complete mandatory acquisition courses necessary for certification in several developmental areas of concentration. Impacts are being examined for AAC officers who elect, or are selected to attend, a shorter resident experience.

The task force has also recommended that the Army Materiel Command take the lead in developing a uniformed Army scientist program in concert with the Director for Acquisition Career Management, Assistant Secretary of the Army for Research, Development and Acquisition; branch proponents; the U.S. Army Training and Doctrine Command; and the U.S. Total Army Personnel Command. Identification of uniformed Army scientist requirements, a means to identify individual officers, and proposals to ensure promotions or alternative compensation necessary to meet Army requirements will be components of the program.

Another AAC interest area concerns the proposed functional area for Simulations Operations (FA 57) within the Information

Operations career field. Debate regarding viability of a separate functional area vs. identification of simulations trained officers across the force (including AAC) via an additional skill identifier continues. Resolution, in the form of either preceding course of action or some alternative combination, is likely to result from the massive effort to recode the force being undertaken by members of the task force implementation team and other key force structure players.

Finally, although not directly tied to OPMS XXI, pending force reduction and shaping recommendations from the Quadrennial Defense Review and other DOD and Army structure and recoding efforts (e.g. Joint Defense Authorization List review and Field Grade restructuring) will cause the OPMS XXI task force to synchronize these various efforts to ensure the proper matching of correctly identified positions to the development and assignment of officers with the right skills to fill existing and proposed branch, functional area and functional integrator positions.

Conclusion

Throughout this process, we kept sight of the fact that warfighting remains job number one for our Army and that is its primary focus. Nevertheless, we believe we are creating alternative career paths to success for those officers who have the skills we need for our 21st century Army, but who do not follow the traditional command path.

Attributes associated with the AAC, such as requirements-based composition and size; maximum professional depth of expertise balanced with varied job experience; tailored professional education; promotion objectives; and growing a bench of flexible, world-class officers are paralleled in OPMS XXI task force recommendations.

The goal is to create a "win-win" system for both the Army and its officer corps, balancing the Army's diverse personnel requirements while providing Army XXI with a technically and tactically competent officer corps—leaders who can create learning organizations focused on excellence in all they do.

One thing is certain. The officer development system approved by the Chief of Staff will be a flexible system—one best suited for the officer corps, the Army, and the Nation.

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RETHINKING FORSCOM CONTRACTING

The Brilliant Idea

I wish I could tell you that someone in the Office of the Principal Assistant for Contracting (PARC), U.S. Army Forces Command (FORSCOM), woke up one morning with a brilliant idea: "Let's reinvent FORSCOM contracting. I have an idea that will make it faster, cheaper, better and more customer focused. I know just how to streamline processes, empower people, and save bundles of money." Unfortunately, that's not the way it happened. PARC, FORSCOM found, just like everyone else in the Army, that we had severely reduced resources, an expanding mission, and increased customer expectations. We woke up one morning and said "We're headed for mission failure. We just can't do business like this anymore—but we have absolutely no clue how to fix it."

Fortunately, from this undistinguished beginning emerged a campaign to get smarter in business processes. We became good at identifying and implementing thousands of little brilliant ideas, generated from a variety of sources, rather than looking for the one big hit invented at headquarters. Our ideas came from hundreds of sources: our contracting professionals in the field, our customers, contractors, other Army commands, and other government agencies. Implementation sometimes came from a headquarters edict, but more often from following the lead of innovative Directorates of Contracting (DOCs) at FORSCOM installations. This portfolio of strategies developed into an agenda for acquisition reform at FORSCOM. Eventually, we did streamline processes, empower people, and save money.

The New Reality

Forces Command trains, mobilizes, deploys and sustains combat-ready forces. To support this mission, FORSCOM contracting obligates about \$1.5 billion annually. This figure has remained relatively constant, considering inflation, since 1989. However, after discounting the workforce associated with installations we have divested, our workforce has decreased 23 percent over the same period.

In the midst of downsizing, the very nature and character of our contracting mission began to change. During the Cold War, FORSCOM provided additional forces to forward deployed commands in what was basically a planning and pre-

By Toni Gaines

paredness environment. Contracting in FORSCOM was focused on base operations. Then, in 1990, the world changed and the operations tempo took off—we deployed 25 times in seven years. FORSCOM installations have become platforms from which to launch forces into hazard areas quickly and frequently.

For FORSCOM contracting, it has meant the end of long lead times and well-defined specifications for the most critical aspects of our mission. Our focus has had to shift from relatively stable base operations contracting to more volatile force projection and contingency contracting.

An Emerging Strategy For Acquisition Reform

When downsizing first began, we took our cuts on the chin—we reacted by merely making our organizations smaller, exhorting them to "do more with less." Meanwhile, installation DOCs were reeling from the pace of force deployment and recovery. It became clear we had no effective strategy for the long run. FORSCOM needed a more flexible contracting organization armed with faster processes and able to work effectively with fewer resources. We needed changes across the full spectrum of contracting—changes in rules, tools, processes and organization.

Lacking a single, brilliant, unifying concept for change, we began pursuing many avenues simultaneously, at various organizational levels of action. What emerged was a collective strategy that eventually targeted all areas of acquisition reform. An example from each area of change shows how this approach brings synergy to the overall strategy.

Changes In Rules: Empowering Ideas

We tend to think of empowerment in terms of people, but it applies to ideas as well. In 1995, FORSCOM was designated a Reinvention Center, giving us wide latitude in changing regulations and processes. The Command established a forum chartered to seek out and implement good ideas from all sources. Any process

reform, including acquisition reforms, could be suggested by anyone in the command and heard within this forum. Customers could freely challenge our rules and processes, and the burden of proof was on us. In addition, installations were empowered to make changes unilaterally under many circumstances, notifying headquarters of the change rather than requesting permission. This radically altered the way we operated, how the PARC related to the DOCs and how the DOCs related to their customers.

We had to re-look all of our FORSCOM procurement regulations and procedures. The need for a rule had to be readily apparent to the installations—it had to be useful. We listened in earnest to the suggestions from the field, and designed rules and guidelines the installations felt were needed or wanted. We knew that any policy we made which could not be soundly justified would simply be reengineered away. This had the effect of lessening controls over installation contracting organization and processes. As a result, ideas were empowered. Installations had much more freedom to experiment—to try new concepts, emphasize different approaches. Our installation DOCs were transformed from contract factories to innovation centers.

Changes In Tools: Electronic Data Interchange

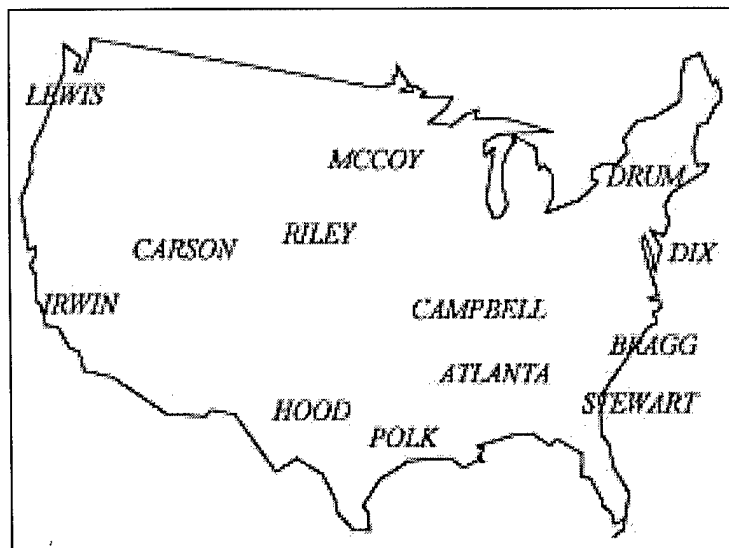
Forces Command made early investments in automation for contracting and has maintained the infrastructure near industry standard, supplementing the funding provided by Department of the Army programs. We were well positioned to take advantage of new electronic data interchange (EDI) technology. As a result of our decentralized approach to innovation, technical impediments were overcome quickly: one installation would identify a problem, three would identify solutions—all different.

FORSCOM has led the Army for two years in EDI use and was one of the first major commands to be 100 percent Interim FACNET-certified. Now DOCs are expanding to the Internet as well, ensuring FORSCOM contracting leverages the full spectrum of available technologies.

Changes In Processes: IMPAC Card

We began implementing the

FORSCOM
Directorates
of
Contracting.



International Merchant Purchase Authorization Card (IMPAC) in 1993. By April 1997, 97 percent of all purchases in FORSCOM under \$2,500 were being made with the card; FORSCOM has led the entire federal government in implementing the IMPAC program. It is difficult to assess how much we have saved using the card—estimates vary from \$35 million to \$60 million annually, depending on how you benchmark and whose money you think you're spending. Regardless, the program has reduced the time it takes customers to get their small requirements from 15 days to a matter of hours. And customers get exactly what they want—they buy it themselves.

The implementation of the IMPAC card has caused us to completely rethink and reengineer entire processes, and each process reform has generated new opportunities. For instance, we closed down our self-service supply stores. Then the National Institute for the Blind and the National Institute for the Severely Handicapped saw an opportunity to reopen the stores as self-sustaining concerns with prices at or below market.

Changes In Organization: Regionalization

Before the Army developed the Centers and Satellites approach to contracting organization, FORSCOM began implementation of a similar approach we call "FORSCOM Contracting Regionalization." In August 1994, we chartered a team to design a contracting organization for the next century. The team, with representation from both staff and field, was sponsored by a cross-functional Executive Advisory Council. The team assessed five possible courses of action: maintaining the current organization, reengineering each installation independently, regionalizing by geographic location, regionalizing by Corps Command, and centralizing

all FORSCOM contracting at one location.

Typical of the FORSCOM approach to acquisition reform, several installations began exploring their own ideas for organizational innovation concurrent with the FORSCOM study—some might say in self defense. To their credit, their independent analyses provided a great deal of refinement to the courses of action under study. What emerged was an experiment using several organizational models—each course of action had a champion who refined the organizational concept and began implementation at their own installation. The innovation and diverse experiences of the installations vastly improved the quality of the study, though it only marginally contributed to consensus. Within a year, the decision was made to regionalize by Corps Command.

Contracting regionalization, or "Centers and Satellites," as it is now called under the FORCE XXI concept, has become a cornerstone in our contracting strategy in FORSCOM. We estimate regionalization will save us \$41.7 million by FY 2001 and our experience with regionalization thus far shows that it works. We projected \$7 million in savings for FY 97, but achieved over \$8 million before May. There are certainly a great many issues that remain to be resolved, but the diversity of approaches within our contracting community will surely develop a multitude of solutions.

Next Generation Of Acquisition Initiatives

Commercial activities presents another tremendous opportunity for savings, while at the same time creating some significant workload issues. We call it "the Godzilla requirement meets the streamlined contracting office." Forces Command will study the impact of contracting-out almost 5,000 personnel spaces over the next three years. Aside from the effort to support these stud-

ies, a full sweep by the contracting option would increase FORSCOM's contracting workload almost 50 percent. Of course, it is just as likely that the studies will conclude that these services are best performed in-house, and there would be no long-term workload increase to contracting.

We have no idea yet as to the magnitude of the issues we will face in the very near future but, fortunately, contracting regionalization, automation, and our experience in reinvention gives us the flexibility we need to meet this challenge. In any event, we will have to do things differently than we do today, and just knowing that gives a jump on the problem.

There was a widespread impatience for change latent in the acquisition workforce. Once the door to acquisition reform was opened, new ideas came surging through. There are many new initiatives in FORSCOM:

- Fort Campbell is experimenting with new organizational structures similar to integrated process teams;
- Fort Dix is consolidating and redefining the way Reserves get contracting support, based on customer preference rather than organizational structure;
- Fort Hood is designing a fully automated requirements system; Fort Drum is rethinking payment systems; and
- Fort Stewart is pushing the envelope of automation leverage. Each installation seems to be moving in a different direction, while, at the same time, incorporating the successes of the others. This keeps us moving fast.

FORSCOM Contracting Moving Forward: "Ready, Fire, Aim"

In FORSCOM, we are building an acquisition culture that thrives on the pace of change. The secret to our success is to allow a diversity of approaches. We have many false starts, mistakes, sometimes poor or lackluster results. However, we have learned to prune the disappointing initiatives and reinforce success. Even when we conduct deliberate planning and analysis, such as during the Contracting Regionalization study, we maintain the flexibility for side trips to allow the development of ideas outside our assumptions. The trick is to move fast, allow the confluence of those thousands of little brilliant ideas to define the overall approach, then take a breath and bring it together.

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ARMY PERSONNEL DEMONSTRATIONS

By Dr. Robert S. Rohde,
Janice M. Lynch,
and Richard Childress

Introduction

The Army is currently pursuing two personnel demonstrations within the acquisition workforce. The first one involves the Army Science and Technology (S&T) Reinvention Laboratories, while the second applies to the acquisition workforce personnel contained in acquisition organizations other than the laboratories. Those participating in the laboratory demonstrations will not participate in the other. The intent of this article is to acquaint the Army RD&A community on the status of these demonstrations and to highlight some of the differences.

Army S&T Lab Personnel Demonstrations

In 1994, Congress recognized the challenges facing the Department of Defense (DOD) in its efforts to improve the recruitment, retention and utilization of laboratory personnel. In accordance with Title 5, United States Code: Chapter 47, authorizing the conduct of personnel demonstrations, the National Defense Authorization Act for FY 95 (Public Law 103.337, 108 Statute 2663) authorized the Secretary of Defense, in partnership with the Director of the Office of Personnel Management, to undertake personnel demonstration projects for those organizations DOD designated as S&T Reinvention Laboratories. The Army proponent for this effort is the Director of Research and Laboratory Management, Office of the Assistant Secretary of the Army for Research, Development, and Acquisition.

Approval authority for the demonstration plans resides with the Assistant Secretary of the Army for Manpower and Reserve Affairs, the Office of the Secretary of Defense for Civilian Personnel Policy, and the Director of the Office of Personnel Management.

Under this authority, S&T Reinvention Laboratories were authorized to develop alternatives and waivers to certain Title V

laws, rules and regulations relating to qualifications, recruitment and appointment of personnel; classification and compensation; assignment, reassignment, and promotions; discipline; incentives; hours of work; methods involving employees and labor organizations; and methods of reducing staff and grade levels. The authority did not allow the laboratories to waive any Title V laws, rules and regulations pertaining to leave, employee benefits, EEO and discrimination, limits on political activities, and merit system and prohibited personnel practices.

S&T Reinvention Laboratories in the Air Force, Navy and the Army have proposed differing personnel demonstrations under this authority. The Air Force was the first Service to have a personnel demonstration plan approved under this authority. The Army was second with two plans for the Missile and Aviation research, development and engineering centers (RDECs) receiving final approval in June 1997. The Navy is nearing final approval for one of their two plans.

Of the three Services, the Army has the most ambitious effort underway with 19 R&D organizations designated as S&T Reinvention Laboratories, each with the authority to develop its own plan. Five of these organizations—the U.S. Army Medical Research and Materiel Command; the Corps of Engineers' Waterways Experiment Station, and the U.S. Army Materiel Command's Army Research Laboratory, Missile Research, Development and Engineering Center, and Aviation Research, Development and Engineering Center—were selected as Phase I participants.

The first *Federal Register* notices for the Phase I demonstrations were published in March 1997, culminating a process which began in November 1994. These notices were followed by a 60-day public comment period and public hearings at each site affected by the demonstration. As a result of comments received, modifications to

the plans were made, resulting in a second publication in the *Federal Register* and a 90-day notification period to Congress. With publication of the three remaining Phase I final plans in the *Federal Register* in August 1997, all Phase I labs will have obtained the authority to begin implementation of their demonstrations this fall. The remaining 14 S&T Reinvention Labs are in Phase II.

The Phase II laboratories are using the Phase I approved plans as starting points for the development of their own proposals. Publication of their personnel demonstration proposals in the *Federal Register* is scheduled for this fall/winter. Approval of their final plans is anticipated for spring 1998. More than 13,000 engi-

*Hiring
the right person
at the right time
is always
a challenge.
The
Acquisition
Demonstration
attempts
to simplify
the process
while
protecting
employee
and veteran
rights.*

*The
Acquisition
Workforce
Personnel
Demonstration
has been tailored
for the new
acquisition
reform
environment.
It is designed
for maximum
flexibility
of management
and the workforce.*

neers, scientists and administrative and technical personnel will be covered by Army S&T Reinvention Laboratory personnel demonstrations. Approximately half are covered in each phase.

Though the first five Army plans are similar in that they address the same personnel challenges, each varies in its solutions. All provide improvements in the hiring, classification, pay, performance management, and training of laboratory employees. Each is the product of management's partnership with its local unions, extensive involvement of the laboratory's own workforce, support by its servicing civilian personnel office, and the advice of Army, DOD, and Office of Personnel Management experts.

The plans have hiring and assignment flexibilities, establish broadbanding systems, provide for simplified job descriptions and streamlined classification, replace the standard Army performance appraisal system with local performance appraisal and pay-for-performance systems, and expand developmental opportunities. Each feature was designed with the objectives of benefiting employees, reducing the administrative burden, and improving organizational effectiveness in mind.

In conclusion, these demonstrations will be the first major changes to improve the personnel systems specifically tailored to the Army laboratories. These changes to Title V, as well as to Department of Defense and Department of the Army personnel

policies, will allow the Army labs greater flexibilities and authorities to manage and improve the laboratory staffs. The demonstrations go far in answering criticisms from the Defense Science Board and others that the current system is too slow, puts up administrative barriers, and is impossible to change. These projects try to overcome these difficulties by streamlining some processes and introducing new flexibilities. They will provide the Army S&T Reinvention Laboratories with new innovations and efficiencies needed to sustain a strong 21st century laboratory workforce capable of solving the technical challenges facing the 21st century warfighter in an era of downsizing and declining resources.

Army Acquisition Personnel Demonstration

The Acquisition Demonstration is designed to expand the capabilities and opportunities of the acquisition workforce. The original *Packard Commission Report* of the 1980s cited issues such as the lack of professionalism and training in the ranks of the acquisition workforce. The Defense Acquisition Workforce Improvement Act (DAWIA) of the early 1990s went a long way toward correcting the issues from the *Packard Commission Report* by providing educational and training opportunities while mandating minimal requirements for acquisition personnel. The Acquisition Workforce Demonstration is designed to further enhance the opportunities for the workforce by updating the personnel system to reflect the realities of the business environment of the 1990s.

The Acquisition Workforce Demonstration initiatives, which were heavily borrowed from other demonstrations and private industry, are divided into three broad areas. These areas are hiring, maintaining and developing the workforce. There are more than 50,000 employees DOD-wide expected to participate in the demonstration.

Hiring the right person at the right time is always a challenge. The Acquisition Demonstration attempts to simplify the process while protecting employee and veteran rights. There is a simplified job classification process that will be highly automated, as well as standardized job descriptions. The other modifications to the process will use merit principles to hire workers with the correct mix of skills, knowledge and ability.

The Integrated Product Team (IPT) forms the basis for many of the new acquisition reform techniques. The demonstration reflects this emphasis on the IPT concept as well as personal contribution. The IPT requires personnel who are experts in their own field and highly knowledgeable of

related fields. The development of this multi-skilled individual is an expensive and time-consuming process. The demonstration attempts to facilitate the compensating, training and retaining of these individuals in which the government has invested so heavily. To these ends, the demonstration incorporates a contribution-based compensation and appraisal system, broadbanding (consolidating multiple grades into one band), simplifying RIF rules, and modification of the Priority Placement Program to allow flexibility during times of downsizing and reorganization.

The IPT is also a factor in the need to develop critical skills for employees participating in the demonstration. The demonstration makes provisions for local commanders to designate those skills necessary for certain jobs and then pay for associated training and education (including degrees). All employees will be encouraged to learn about all functions of the acquisition business with developmental assignments being made available.

Also, incentives will be available to help families take advantage of opportunities to learn about other functional areas locally or in other geographic locations. These programs will be voluntary and competitive. Sabbaticals will also be available for employees.

The Acquisition Workforce Personnel Demonstration has been tailored for the new acquisition reform environment. It is designed for maximum flexibility of management and the workforce. It incorporates the latest human resource management philosophies while maintaining the traditions of merit pay.

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APACHE COMMERCIALIZATION

Introduction

Over the past several years, the administration and the DOD have encouraged the Services and industry to explore new ways of doing business to improve the efficiency of the military/industrial acquisition process. Regulations have been relaxed and senior DOD management has been supportive of suggestions to try new arrangements that can reduce the cost of oversight without adversely impacting the quality of the product. One of the newer concepts that has emerged from the arsenal of streamlining initiatives is commercialization. Commercialization has as its goal the adoption of commercial best practices to lower system cost by eliminating unaffordable and unnecessary efforts while maintaining product quality and enhancing product capability.

In mid-1995, McDonnell Douglas Helicopter Systems (MDHS) proposed a joint process improvement initiative with the Army to adopt commercial best practices. Dr. Paul Kaminski, then Under Secretary of Defense, Acquisition and Technology, and Gilbert F. Decker, then Assistant Secretary of the Army, Research, Development and Acquisition (now retired), agreed that the Army and MDHS should work together to redefine the government/contractor relationship. In June 1995, MDHS was designated an Army Commercial Best Practices Laboratory (Comm BPL).

The Comm BPL was implemented at the MDHS facility in Mesa, AZ. The Mesa facility was built specifically for the manufacture of Apache helicopters but has been adapted over the years to accommodate MDHS's growing commercial business and continuing foreign sales of military helicopter products, primarily Apaches. This facility, with its parallel military and commercial product lines, provided an ideal laboratory to experiment with adapting commercial practices to military procurement.

Army/Industry Teaming

An Army/MDHS Integrated Process Team (IPT), composed of four joint working groups including Acquisition, Product Definition, Production, and Product Support, was established to evaluate and, where beneficial, adopt commercial practices. A General Officers Steering Committee composed of DOD and MDHS senior management provided oversight and direction to the IPT.

Since most of the IPT efforts were focused on realizing immediate benefits on the Longbow Apache, the IPT was co-chaired by Gary Nenninger, Deputy Apache Project Manager, and Chris York, MDHS Vice-President of Finance and Supplier Management. The IPT concentrated on

Gary Nenninger and Chris York

changing from a transaction and product inspection focus to a process validation focus. (See Figure 1.) Processes in each of the working group categories were redefined based on the risk to the government and the stability of the process. Fifty-four initiatives were defined, their risk assessed, and an implementation schedule prepared.

Acquisition Working Group

The Federal Acquisition Streamlining Act (FASA) of 1994 was passed to change many of the DOD non-value added requirements that had crept into government acquisition processes. The Acquisition Working Group sought to aggressively pursue FASA initiatives in redefining the way government business is conducted at MDHS. This working group considered initiatives to improve the contractor/government relationship by reducing oversight requirements in contract negotiation and administration and in sub-contractor/vendor management.

The acquisition initiatives from this group jointly established the baselines, ground rules and processes to ensure that a fair and reasonable price is paid for all items procured. The government retains the responsibility for validating contractor processes and ensuring compliance rather than auditing on a transaction by transaction basis.

Fifteen initiatives, with potential annual savings of \$5 million, were considered, and 12 were adopted. Initiatives to reduce the time and paperwork required to prepare cost/price proposals provided the largest savings. These savings were achieved by certifying MDHS cost data bases and models. The processes for justifying the cost of vendor procurements were also revised. These changes relaxed requirements for cost analysis and broadened the definition of a commercial item so that price reasonableness could be established on the basis of supplier certification.

Product Definition

The Comm BPL implemented an Integrated Product Definition approach. This was a systematic approach to the concurrent design of products and their related processes, considering all elements of the product life-cycle from conception through disposal, including quality, cost, schedule, and users' requirements. Processes were considered both from the perspective of the procuring government agency and from the standpoint of the contract administration agency.

Eleven initiatives with potential annual savings of \$1.5 million were considered, eight were adopted or merged with another initiative, and three are still under evaluation. Two initiatives to change the government/contractor approach to configuration management provided the greatest savings. The first implements contractor control of the product baseline. This initiative also revises traditional contract requirements to replace the concept of data delivery with access to information and, provides for government participation on integrated product teams in lieu of after-the-fact approvals and audits.

The second revises the Change Management Process itself. Change management involves the review, authorization and tracking of changes to the configuration. This initiative revises the government/contractor relationship to provide for government participation in concept definition to (1) streamline the proposal package using electronic templates; (2) accommodate concurrent preparation and technical review of Statements of Work with pre-submittal electronic review and comment capability; and, (3) establish baseline factors for typical Engineering Change Proposal (ECP) tasks leading to concurrent review and approval of labor hours prior to ECP submittal. As a result, cycle time and proposal preparation time are reduced significantly.

The approach to product data is now focused on customer access to information rather than the delivery of data products. Customer participation in the design

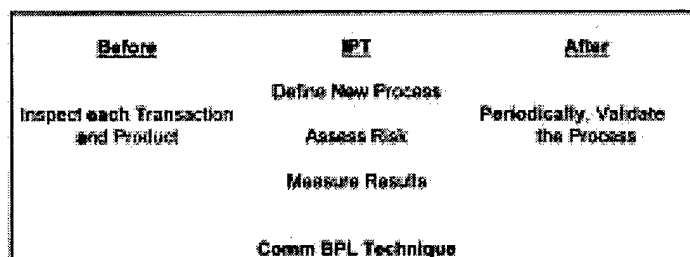


Figure 1.

process as an integrated team member is replacing the traditional role as an auditor. Although not inherently a "commercial" practice, Integrated Product Definition is a "best practice" that lays a solid foundation for many streamlining initiatives being sponsored by industry and DOD.

Production Working Group

The Production Working Group focused on transitioning MDHS production processes to a state of self-governance and converting the government oversight role to one of periodic process auditor. Twenty initiatives with potential annual savings of \$800,000 were considered, 15 were adopted or merged with another initiative, and two are still under evaluation. A low-risk method for oversight based on demonstrated process control was developed. The government did not reduce oversight until MDHS demonstrated process control as measured by pre-determined metrics. The new processes are reducing cost and cycle time on the shop floor while ensuring that hardware quality is maintained or improved.

One initiative that shows the extent to which the government/contractor relationship is changing is the Technical Compliance Designee (TCD) initiative. MDHS employees are designated to act as government quality assurance specialists in the areas of production processes and product verifications. The TCDs provide a means for the government to have on-site representatives without incurring support costs. Similar to the inspectors used by the FAA, TCDs reduce the time for inspections by being available 24 hours a day, seven days a week.

Another bold initiative has recently been implemented. This initiative has MDHS and Army pilots perform acceptance flight tests together to eliminate duplication and reduce cost. A joint test process was successfully used to accept the first Longbow Apache delivery. This process reduces flight time for acceptance of each aircraft by 30-40 percent compared to the traditional process of contractor flight test followed by government flight test.

Product Support Working Group

The Product Support Working Group focused on providing more efficient support to the Army customer "after the sale." Several of the initiatives were combined into proposals to provide full-service supply and maintenance including field service representatives, repair parts, and change management. This working group also evaluated initiatives to use commercial techniques for preparation of technical manuals and training material. They also successfully proposed commercial off-the-shelf ground support equipment to replace more expensive design-to-specification hardware.

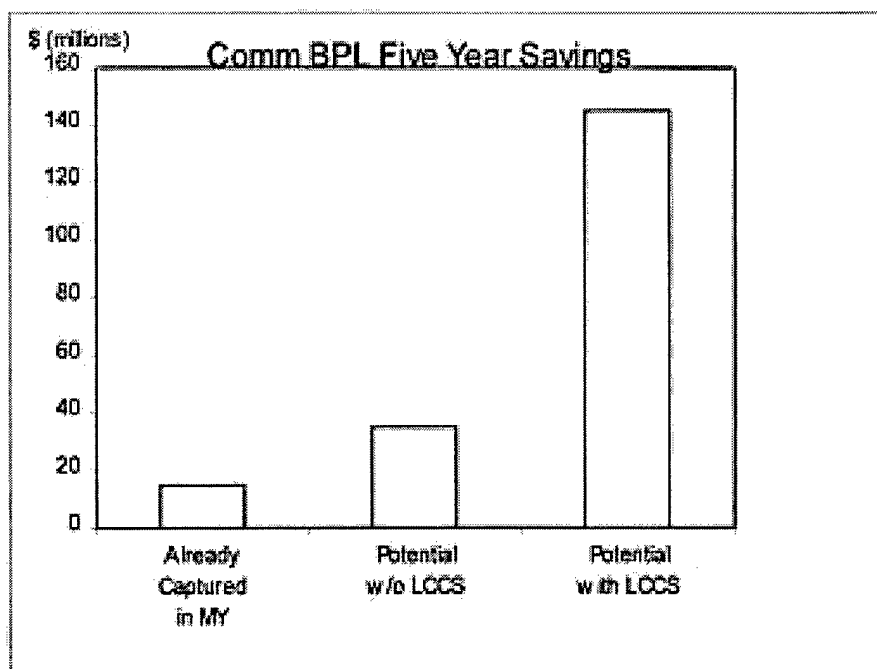


Figure 2.

Eight initiatives were considered, four were adopted or merged with another initiative, and two are delayed or are still under evaluation. Savings of \$160,000 were realized from the use of off-the-shelf ground support equipment. Interim contractor support which relegated many of the traditional government supply and maintenance functions for the Longbow to MDHS, is already on contract. MDHS has proposed to expand this Life Cycle Contract Support (LCCS) concept to the entire Apache fleet at considerable additional savings to the Army. This proposal is still being evaluated by the U.S. Army Aviation and Troop Command and the Deputy Chief of Staff for Logistics.

Benefits

Potential savings and/or cost avoidance for Comm BPL initiatives exceed \$7 million per year. More than \$15 million of the potential savings have already been captured in the Longbow multi-year contract. Non-quantifiable savings due to reduced cycle time and reduced government oversight will also accrue. If LCCS is approved, another \$22 million per year could be saved in Army support costs, or as much as \$110 million over the initial trial period (five years). (See Figure 2.)

Conclusion

The Comm BPL has been a win-win situation for the Army, for MDHS, and for the taxpayer. The Army gets an affordable Longbow Apache, MDHS gets a profitable stable business base for at least five years, and taxpayers get full value for their

Defense dollars.

The success of the Comm BPL IPT is evident not only in the financial savings realized, but in the lasting changes made to the government/MDHS relationship. Working together on the IPT led to the discovery of areas in which the team members could support each other while still maintaining an arms-length relationship. Traditional barriers have been eroded and the team has built a foundation for lasting success based on mutual trust. Joint Army/MDHS teams must continue to shorten process cycle-times, and also will continue to improve the process outcome.

GARY S. NENNINGER is the Deputy Program Manager for the Apache Attack Helicopter in the Office of the Program Executive Officer, Aviation in St. Louis, MO. He holds a Bachelor of Arts degree from the University of Missouri and has completed the Program Manager's Course at the Defense Systems Management College.

CHRISTOPHER A. YORK is the Vice President of Finance and Supplier Management for McDonnell Douglas' operations in Mesa, AZ. He holds a bachelor's degree in economics and an M.B.A. in finance, both from UCLA.

INFORMATION AGE AMMUNITION TESTING

Introduction

An important contribution to the dramatic success of U.S. armor forces in Operation Desert Storm was attributed to the ability of U.S. tanks to engage Iraqi tanks at distances so far away that the Soviet-built Iraqi tanks could not fire back effectively. Achieving such success did not occur by accident! Many years of engineering and testing were required to develop the 120mm tank gun and the accurate, lethal ammunition that performed so well in combat. Figure 1 shows a modern kinetic energy projectile shortly after muzzle exit, as the sabot pedals are separating from the penetrator.

By W. Scott Walton

Numerical Modeling

Computer models of interior and exterior ballistics are developed by the Army Research Laboratory, and then used by weapon developers such as the Project Manager (PM), Tank Main Armament System, and the Armament Research, Development and Engineering Center to predict the performance of new concepts for large caliber weapons and ammunition.

Examples of such models include the original one-dimensional numerical simulation (NOVA, developed by Paul S. Gough in 1980) which can simulate a wide range of gun propelling charges. The Express (NOVA) Kinetic Tank Charge (XKTC) code is an extension of NOVA that includes tank gun and traveling charge modeling features, projectile afterbody intrusion and a combustible case option. The output of such codes can be visually displayed using Interior Ballistic Graphic Facility (IBGRAF) for graphical display of the numerical computations and visual animation of the results. An example of an IBGRAF animated display of XKTC calculations is shown in Figure 2.

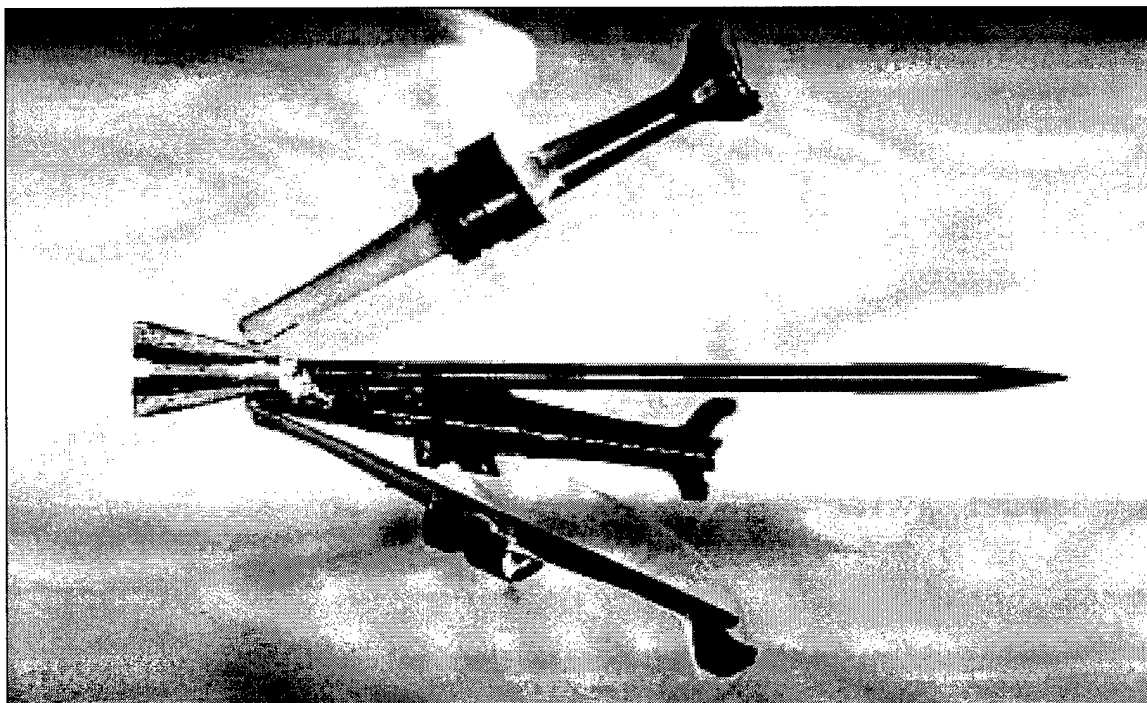


Figure 1.
Modern kinetic energy projectile.

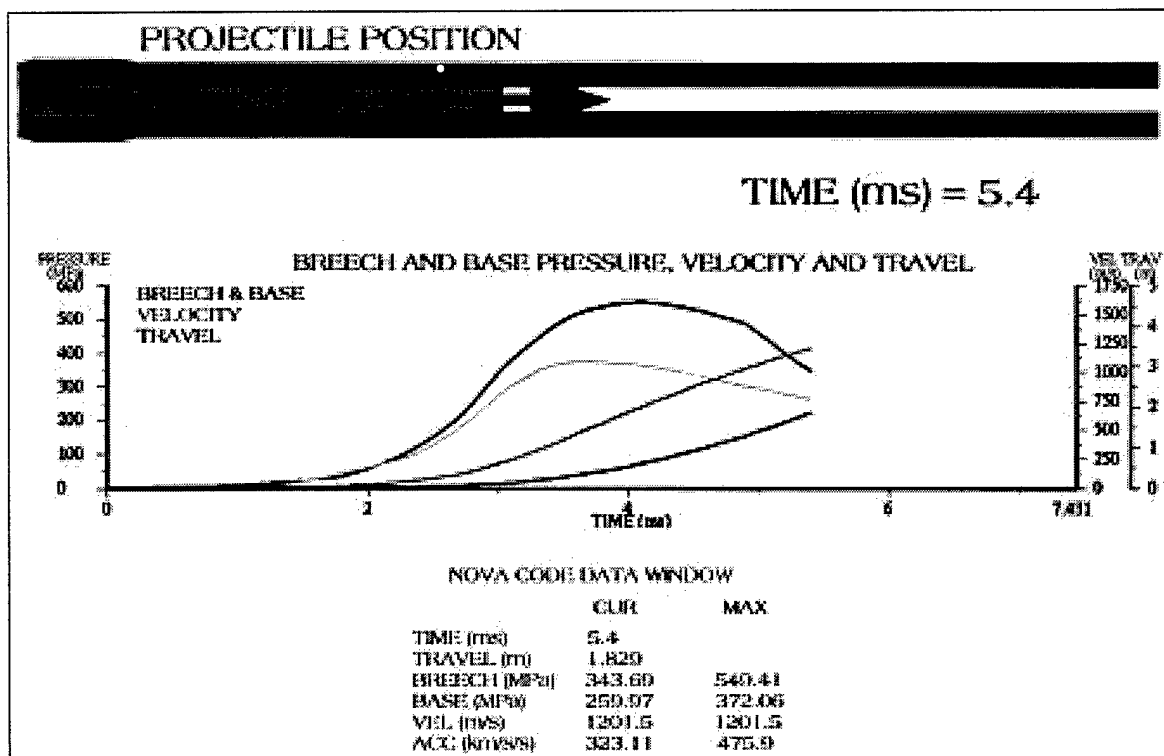


Figure 2.

A precise and thorough understanding of interior ballistics is critical for determining both the safety and combat effectiveness of a weapon. Small errors in design can be magnified into larger errors in the weapon performance parameters. A 2 percent error in chamber pressure, for example, can result in a 6 percent change in fatigue life, a 4 percent change in range, or a 3 percent change in weapon weight.

Ancient leaders were reported to have tied cannon builders to their weapons during the firing of the first few rounds, to insure that the "designer" had confidence that the weapon would not blow up. Modern designers, although not tied to their cannons, always require actual weapon firings to confirm their understanding of weapon performance.

The science of interior ballistics addresses propulsion of the projectile. Exterior ballistics addresses muzzle exit and flight of the projectile to the target. Muzzle exit is especially critical for kinetic energy rounds, known as Armor Piercing Fin Stabilized Discarding Sabot ammunition. The separation of the sabot from the main penetrator must not interfere with the flight of the projectile. Even the smallest interference can cause the projectile to miss a target that is several kilometers away.

The sabot separation process can be mod-

eled by using computational fluid dynamics. Models are used to evaluate the sabot discard process and the flight motion of the projectile (spin, pitch, and yaw) for supersonic flight can also be modeled using computational fluid dynamics to analyze the trajectory of advanced anti-tank ammunition.

The high price of advanced anti-tank ammunition (\$2,000 to \$7,000 per round) creates a strong incentive to maximize the use of modeling and minimize the number of actual test firings. Although computational fluid dynamics provide powerful tools to predict and improve performance, subtle effects, such as turbulent flow over complex, asymmetric geometries at supersonic and transonic velocities can cause uncertainties, and test firings are inevitably required.

Further motivation for actual firing comes from warfighters who demand demonstration of first round hit capability. Independent Army materiel evaluators, who must certify that weapons and ammunition are ready for combat, will not put U.S. soldiers at risk without a statistically significant demonstration of performance. Decision makers require the confidence that can only be obtained from a balanced combination of modeling and actual firing.

Testing

Two historical examples illustrate the

evolution of weapon testing. One of the more famous examples of a gun tube explosion occurred in late February 1844, during a demonstration aboard the USS Princeton. A 12-inch smoothbore cannon known as the "Peacemaker" exploded. The Secretary of Navy (Thomas Gilmer) and the Secretary of State (Abel Upshur) were killed. President Tyler narrowly escaped with his life. This accident illustrates why it is incumbent upon top leadership to take a conservative approach in proof testing new designs.

New problems are continually discovered. At 1:32 a.m., April 29, 1970, excessive chamber pressure was developed in a 175mm gun of A Battery, 2/94 Artillery located at Fire Base Barbara, Republic of Vietnam. The breech was blown off the weapon. Two soldiers were killed and two others wounded. The 175mm gun was type classified using a conservative approach. A lengthy investigation revealed that the ignition train of the propelling charge was damaged after being dropped from a hovering helicopter. This situation was not anticipated in the original testing of the ammunition. Test procedures must be continually modified in the search for the most effective compromise between maximum combat effectiveness of the weapon and absolute safety of the crew.

CONNECTIVITY

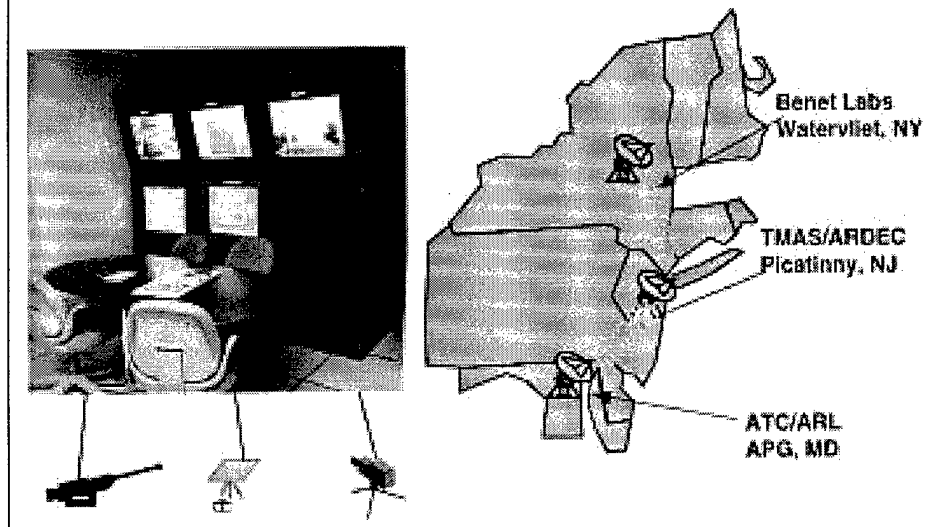


Figure 3.

The firing of prototype weapons and ammunition occurs at the U.S. Army Aberdeen Test Center (ATC). Large caliber weapons such as the 105mm and 120mm tank guns or the 155mm howitzer are fired from barricades at several locations. The three firing barricades on the "Main Front" range were recently re-built by the Army Corps of Engineers.

The Project Manager, Instrumentation, Targets, and Threat Simulators (PM, ITTS) is installing new ballistic cameras and instrumentation at all seven direct fire ranges at ATC. Typical test firing measurements include chamber pressure inside the cannon, a digital high-speed motion picture camera looking at the cannon to show projectile exit, digital still photographs from the side, video scoring of the target impact, radar tracking of the projectile velocity and trajectory, and flash X-ray of the projectile inside the fireball created at muzzle exit.

One of the primary improvements resulting from the new instrumentation provided by PM, ITTS is that all of the varied measurements of test firing are immediately displayed to the test engineers on site. The new test engineer "work area" provides monitors displaying down range target impacts, weapon functioning in the barricade, digital images, X-rays, and a computer display of velocity, pressure, and other ballistic measurements. This massive concentration of information allows intelligent decisions to be made on site, during the execution of the test rather than after firing has been completed.

Examples of improved instrumentation include a digital imaging camera which produces images of projectiles in flight, such as the photograph shown in Figure 1. This camera saves time and reduces image pro-

cessing cost. Because it is a digital imaging device, there are no film processing chemicals to cause environmental problems. Use of a Doppler radar to replace down range "sky screen" measurements of projectile velocity also saves time and money. In addition, projectile velocity is measured continuously along the trajectory, which permits a much more comprehensive comparison to exterior ballistic modeling of the projectile's flight down range.

A third example of improved ballistic instrumentation is the high-speed video imager, which is essentially a digital movie camera. It provides instant feedback on ammunition performance, reduces image processing costs, and eliminates environmental problems. Most important to test customers, however, is the fact that since the digital cameras do not require reloading of film down range, the gun crew can be aiming the weapon and loading the next cartridge while the photographers and instrumentation crew prepare for the next test round. This improved efficiency increases the number of instrumented test shots from 30 per day to 40 per day.

Communication Of Test Results

ATC has made a significant effort to improve and standardize the different ballistic data acquisition systems so that all the results (chamber pressure curves, digital images, velocity measurements, target impact locations, etc.) can be combined and stored on a single computer. This test site integration has improved communication between various instruments.

ATC has also developed a local area network. This network has facilitated the col-

lection and transmission of test data, both within the test range and throughout the command. Digital data files of measurements, images, etc., are stored in a central repository. Open literature information can be accessed through the Internet. Work is presently in progress to develop techniques for access to sensitive and classified information by authorized remote users with encrypted digital communication links, as shown in Figure 3.

Conclusion

Advances in computer modeling and improvements in instrumentation are dramatically changing the way weapons are designed, developed and proven to be effective. The tendency to be overwhelmed by the glamour of new technology, however, can be dangerous (especially to the interior ballistics officer that is later "tied to the cannon" when it fires)!

The successful concentration of information allows decisions to be made rapidly. In many instances, re-designed ammunition is being assembled the morning after test firings are completed. The danger is that mistakes in modeling, errors in measurement, and data anomalies may not be discovered until after decisions have been made. It has been noted that erroneous data is processed, printed, and communicated over the Internet with the same speed as valid data.

A rational approach to both modeling and testing can save money, reduce development time, and provide improved weapon performance. The challenge for tomorrow's weapon developers is to wisely use the new technology in such a way that they still have the confidence to be "tied to the cannon" when the new weapons and ammunition are ready to be fielded. Such an approach will give the American soldier a decisive edge in combat.

W. SCOTT WALTON is the Chief of the Ballistics Division at the U.S. Army Aberdeen Test Center. After completing airborne training, Walton joined what is now ATC in 1972 as a second lieutenant in the Ordnance Corps. When his military obligation was completed, he remained at ATC as a civilian instrumentation engineer. Walton has a bachelor's degree and a master's degree in mechanical engineering from Cornell University and a Master of Science in administration from George Washington University.

TECHNOLOGY APPLICATIONS CONFERENCES

Supporting The Warfighter

By James F. Gibson
and Joe Sites

Background

In 1990, U.S. Army Materiel Command (AMC) conducted a Leveraging Technology Symposium in Europe for the purpose of establishing an effective European technology network. During the symposium, the participants got to know each other and gained valuable knowledge on how organizations could complement each other's work. In addition to this valuable exchange of information on technical organizations and personnel, the participants met with European commanders to include the Commander In Chief, U.S. Army Europe (CINCUSAREUR). During these sessions, the participants heard the field commanders describe their problems, responded to the commanders and identified areas requiring work. Based on the success of this initial symposium, it was determined

that subsequent symposiums should be conducted in other operational areas. Since that initial meeting, there have been seven additional ones. The most recent was June 19-20, 1997, in Korea. These conferences have been extremely successful in attaining the original purpose of establishing an effective technology network. A benefit which may be even greater, however, has been the provision of a high level communications link between the leaders of the AMC Research, Development, Test and Evaluation community and the commanders in the field.

Technology Applications Conference, Yongsan, Korea June 19-20, 1997

The most recent conference, which was held in Korea, followed a format which

evolved from the original conference. RDT&E participants included Department of the Army representatives; senior AMC staff members and directors, or their representatives from the Army Research Laboratory and Research Development and Engineering Centers. Eighth U.S. Army (EUSA) participants included key staff members, and brigade and battalion commanders from selected EUSA units. The conference was led by Michael Fisette, AMC Principal Deputy for Technology and MG John J. Ryneska, Deputy Chief of Staff G-3, EUSA Korea. GEN John H. Tilelli Jr., CG, EUSA, gave the keynote address.

In his address, GEN Tilelli summarized the military environment of his theater of operations. Specific points included:

- North Korea, with the fourth largest

*The conference
again demonstrated
the value of bringing
senior RDT&E personnel
face-to-face
with the commanders
and soldiers
of our field Army.*

CONFERENCE PURPOSE AND GOALS

PURPOSE:

- Identify EUSA materiel problems requiring near term solution
- Determine currently available technology which may quickly fix or improve problems
- Conduct face to face discussions -- field Army leadership and Army technology community

GOALS:

- Develop a priority list of EUSA technology issues
- Determine Army technology community capability to address EUSA issues
- Review previous conference issues
- Identify candidate projects suitable for rapid acquisition
- Provide timely follow-up on EUSA issues

Figure 1.

military force in the world, remains a threat to regional stability.

- Despite North Korea's struggle for economic and political survival, it has not disavowed its goal of imposing its will by force of arms.

- The CINC's mission is to maintain the armistice, deter war, and to fight and win if conflict should occur.

In discussing the application of technology to his forces, GEN Tilelli made several points which included:

- Technical solutions need to be fielded before the technology becomes obsolete.

- Technical solutions must be compatible with sister Services to avoid Service stovepiping.

- Advanced Concept Technology Demonstrations and Advanced Technology Demonstrations have had great success in providing improvements to the soldiers in the field.

- Technology transfer to the Republic of Korea (ROK) is a difficult issue, but central to the ROK Army modernization and to the impact on force interoperability.

GEN Tilelli concluded by noting that the successes of the previous TAC in 1993 had resulted in a significant upgrade in the capabilities of his command, however the accomplishment of his mission was still faced with technological challenges.

GEN Tilelli's technological concerns were addressed by the overall purpose of the conference, which was to identify issues within Eighth EUSA that could be solved or improved through the application of current or emerging technologies. The breakdown of the overall purpose and goals of the conference is shown in Figure 1.

The conference planning phase included the determination by four-star com-



*GEN John H. Tilelli, Jr.
Commanding
General,
Eighth
U.S. Army.*

manders that the conference was needed, selection of an appropriate date for the conference, establishing a purpose and goals, identification of issues to be raised, preparation of participants and, countless administrative details. During the conference, issues were presented by the Commanders' Panel, see Figure 2. The issues raised by the Commanders' Panel and technologies with potential benefits for EUSA were addressed by the AMC Technology Panel (Figure 3).

Seventy-five issues which were raised encompassed a wide range of activities to include:

- Counterfire;
- Intransit Visibility;
- Force Protection;
- Theater Missile Defense Warning; and
- Chemical/Biological Detection and Defense.

These issues were analyzed and AMC organizations were assigned the responsibility to consider specific issues.



LTC James Laufenberg, Commander, Joint Security Area Security Battalion, briefs conference participants at Observation Post Ouelette (OPO). AMC-FAST provided remote video surveillance and monitoring system for OPO.



Michael Fisette (far right) in the Panmunjon Negotiating Room.

COMMANDERS' PANEL

MG Ryneska
Deputy Chief of Staff G-3, Eighth United States Army

EUSA Brigade Commanders
COL Alsop
Commander, 301 Military Intelligence Brigade

COL Darleson
Commander, 8th Military Police Brigade

COL Harman
Commander, 301st Combat Support Group

COL Morris
Commander, 2nd Engineer Brigade

COL Stewart
Commander, 17th Aviation Brigade

EUSA Battalion Commanders
LTC Butler
Staff Officer, 8th Medical Command

LTC Bechtold
Commander, 23rd Chemical Battalion

LTC Bird
Commander, 1st Battalion, 9th Infantry

LTC Dickman
Executive Officer, 1st Brigade, 2nd Infantry Division

LTC Junker
Commander, 702nd Main Support Battalion

LTC Oskowski
Commander, 6th Battalion, 37th Field Artillery

Figure 2.

MG Ryneska summarized the conference by highlighting the issues. He expressed his appreciation to the participants and his interest in the expected results. He cautioned that it would be impossible to address all issues and stated that once the issues had been formalized, it would be important for EUSA to prioritize the issues before resources were allocated to resolving specific problems.

At the completion of the conference, Fisette presented an outbrief to GEN Tilelli. The briefing summarized the issues raised and outlined the follow-on actions which would be taken jointly by AMC and EUSA.

Follow on actions which have been taken and which are underway include:

- Feedback to commanders;
- AMC video teleconference held during week of July 7;
- Preparation of a process report by the end of July;
- Review of report and prioritization of issues by EUSA Korea;
- Final Report; and
- Continued dialogue and tracking of issues.

The conference again demonstrated the value of bringing senior RDT&E personnel face-to-face with the commanders and

AMC TECHNOLOGY PANEL

Mr. Michael Fisette
Principal Deputy for Technology, U.S. Army Materiel Command

Dr. John Lyons
Director, U.S. Army Research Laboratory

Dr. William McCunkle
Director, U.S. Army Missile Command RDEC

Mr. Carmine Spinelli
Technical Director, U.S. Army Armaments RDEC

Dr. Louis Marquet
Technical Director, U.S. Army Communications-Electronics Command RDEC

Mr. Robert Kinney
Associate Director for Dismounted Operations, U.S. Army Natick RDEC

Mr. Alexander Farkas
Director for Business Development, U.S. Army Tank-Automotive and Armaments Command RDEC

Dr. James Baker
Chief Scientist, Edgewood RDEC

COL. Walo Carmona
Director, Aviation Applied Technology Directorate, Aviation RDEC

Figure 3.

soldiers of our field Army. AMC personnel gain a greater insight into the needs of the field and how they can be met with technology. The field commands have an excellent opportunity to learn that AMC is in the business of supporting them and that their needs will drive the insertion of technology into our Army.

Tour of United Nations Command Joint Security Area

As an extra added attraction, a tour to the United Nations Command (UNC) Joint Security Area (JSA) Panmunjon was made available to members of the Technology Panel. The visit was hosted by LTC James Laufenberg, UNC Security Battalion Commander, who was assisted by MAJ Woo Chang Joo, Deputy Commander. LTC Laufenberg reviewed the history and mission of his command. The tour included the Observation Post (OP) Ouelette. Discussions were held on ways to leverage value added technology to enhance mission accomplishment within the JSA area of operations. The visit was a sobering reminder that serious threats remain to our forward deployed forces and reinforced the visitors' resolve to "make technology work for the soldier."

JAMES F. GIBSON is Director of the Army Materiel Command's Field Assistance in Science and Technology Activity. An Army Acquisition Corps member, he holds a bachelor's degree in physics from the Polytechnic Institute of Brooklyn, an M.S. in electrical engineering from Fairleigh Dickinson University and an M.S. in national security strategy from the National War College.

JOE SITES is Vice President/Director Defense Systems, BRTRC. Joe received a B.S. from USMA, an M.S. in mechanical engineering from the University of Southern California and a master's in international affairs from George Washington University. He is a graduate of the Italian War College, the National War College and former staff and faculty member of the Army War College.

One Year Later. . .

THE COMPETITIVE DEVELOPMENT GROUP

By Thomas H.E. Drinkwater

A year ago, an article about the objectives and highlights of the Competitive Development Group (CDG) Program was published in the July-August 1996 issue of *Army RD&A*. Now, a year later, the first CDG year group has been chosen and the 25 selected GS-13s are beginning their three-year program of training, education, and developmental assignments in the acquisition workforce.

The Background

Efforts to develop the Competitive Development Group Program began one year ago as a result of an Army Acquisition Corps (AAC) reengineering initiative. The AAC Reengineering Team, succeeded by the Acquisition Career Management Office (ACMO), developed the CDG Program as part of a set of initiatives to fulfill the AAC vision of "a small premier professional corps of acquisition leaders willing to serve where needed and committed to developing, integrating, acquiring and fielding systems critical to decisive victory for the 21st century."

The objectives of the CDG Program are to select the best GS-13s, to develop leaders for all acquisition career fields, to provide cross functional/command experiences, and to provide leadership/management experience and training.

Some of the benefits of the CDG Program are: CDG members will be offered focused and exciting training opportunities; will have intensive assistance in formulating, scheduling and accomplishing the requirements of their Individual

Development Plan (IDP), will receive cross command and/or cross functional experience; will be centrally managed, and will each have a senior acquisition leader as a sponsor. The CDG member's sponsor will assist the CDG member and his or her supervisor in ensuring that the IDP is fully implemented. The sponsor may be the Acquisition Career Management Advocate (ACMA), or some other AAC member (GS-15+) recommended by the ACMA, at the CDG member's new location.

*All of the CDGs
will receive
comprehensive training
opportunities to
enhance
their career
development
and to meet
the objectives of
their developmental
assignments.*

Prerequisites For The CDG Program

The CDG Program is open to all GS-13 members of the Army Acquisition Corps and GS-13 Corps Eligibles (CEs). The opportunity to apply for the CDG Program was one of the benefits of the CE Program—a program that targets GS-13's Army-wide to determine their eligibility for Army Acquisition Corps membership and provides them with various career enhancing opportunities.

More than 2,500 CE applications have been received over the past year from GS-13s and more than 2,300 of those applicants met the accession criteria and were designated Corps Eligible. At least 15 of those have now been promoted into critical acquisition positions and rapidly accessed into the AAC.

THE CDG YEAR GROUP 1997

The Application Process

More than 800 GS-13 Corps Eligibles and GS-13 AAC members applied for the CDG Year Group 1997 Program. The Acquisition Career Management Office contracted with the Office of Personnel Management (OPM) to manage the application process. The applicants had to complete and submit a self-rating to OPM, along with copies of their three most recent performance appraisals, a preference statement, and a marked-up Acquisition Career Record Brief (ACRB).

CDG Year Group 1997				
Glen W. Berg Carlton E. Brewer Wayne Brunn Jennifer Chew Susan Chiu	Lenora Clark-Evans Mark W. Cope Scott A. Crosson Catherine Doolas Myra S. Gray	Linda Kay Griffith-Boyle Julie E. Hanson Alvin V. Hopkins Shirley J. Hornaday Pamela J. Locke	Robert L. Longlann Carolyn H. Lucas Jean H. Matlock William M. Pekny Ann F. Smith	Craig A. Spisak Anthony J. Subrizi Robert J. Szwedzinski Virginia C. Thompson Rusty L. Weiger
Linda S. Johnston Lisa J. Conley Timothy L. Smith Kevin S. Rees	Theodore G. Greiner Ronald E. Strickland Patricia E. Plotkowski George M. Behnen	Alternates Yves Durand Ronald A. Thompson Sharon M. Squen Chris J. Grassano	Linda A. Beach John W. Newland III Angela Billups Paul A. Nelson	Mario J. Masotto Gerald D. Schuetz Ray K. Sellers, Jr. James S. Unterback

Figure 1.
Competitive Development Group for 1997 and alternates.

Applicants were also required to have their senior raters prepare and forward a Senior Rater Potential Evaluation (SRPE). Applications were submitted to OPM where they were processed and then transferred to the Civilian Acquisition Management Branch (CAMB) of the U.S. Total Army Personnel Command (PERSCOM) for the board selection process. Incomplete application packages were not considered.

The Selection Process

A Department of the Army Selection Board convened in December 1996. The Board was made up of senior acquisition personnel who represented the various acquisition career fields and who were from commands with a high concentration of acquisition personnel. The board recommended 25 primary candidates for CDG Year Group 1997 and 25 alternates. Names of the 25 selectees were published in the May/June issue of *Army RD&A* and posted on the AAC Home Page.

The Selectees

The selectees are indeed a highly qualified group of individuals. The typical selectee has more than 12 years of acquisition experience in a single acquisition career field (ACF), is Level III-certified in two ACFs, has a master's degree and has had multiple command experience. Specifically, master's degrees are held by 23 of the 25 CDG members. The remaining two selectees are working toward obtaining a master's degree. Two selectees have doctorate degrees. The selectees represent a majority of the ACFs. Fourteen CDG selectees have been certified at Level III in two ACFs, and three were certified at Level III in three ACFs.

The Slating Process

A slating panel composed of representa-

tives from the ACMO, Career Program Functional Chief Representatives, and CAMB personnel, to include the Functional Acquisition Specialists (FASs), slated the 25 CDGs and first five alternates to positions to meet the objectives of the CDG Program. These positions had been nominated to the ACMO by PEOs, PMs and AMC Commands prior to the CDG board selection process. The slating panel examined the previous job experience of the CDG selectees, their qualifications, and their preferences for geographic location, career field and command. Slatings were specifically designed to broaden experience in new career fields or new commands/program offices, or to enhance experience already gained in these areas. Six of the slated positions required a PCS move. Several of those moves were already anticipated due to Base Realignment And Closure (BRAC) in that individuals were moving from St. Louis to Huntsville. CDG selectee Susan Chiu will hold the record for the longest PCS move. She will be moving from Kwajalein Island, in the Pacific, to Fort Monmouth, NJ.

Notification And Acceptance/Declination Of Membership

CDG selectees were notified by their commanders or PEOs on April 28, 1997. Twenty of the selectees accepted membership in CDG Year Group 1997 and five declined. Based on their ranking in the order of merit list, five alternates were activated and accepted membership. The membership list for CDG Year Group 1997 (CDG YG97) and the remaining 20 alternates are at Figure 1. The demographics for CDG YG97 at Figure 2 varied slightly from the demographics on the initial board selectees because five alternates were acti-

vated to replace five primary selectees who declined membership.

The Orientation

Upon acceptance of CDG membership, CDG members were notified and provided with travel orders to attend the YG97 CDG Orientation, held in May 1997, in Herndon, VA. The CDGs gathered with their new supervisors and sponsors, many of whom are Acquisition Career Management Advocates, for a three-day seminar. On the first afternoon, each CDG member completed a personal competency assessment inventory. These inventories were compared with a successful Acquisition Corps leader competency profile. These comparisons identified leadership competencies in which each CDG needed additional training and for inclusion on their Individual Development Plans. The next morning, a series of briefings were presented to the attendees. The highlights included presentations by Keith Charles, the Deputy Director, Acquisition Career Management, who presented his vision for the AAC and CDG Program, and Thomas Drinkwater, CDG Project Officer, who discussed the program's goals, objectives and status. That afternoon, the CDGs participated in a communications workshop while the supervisors and sponsors participated in a roundtable discussion of the CDG Program. This discussion was led by Mary Thomas, Deputy Director, Acquisition Career Management Office.

Charles presented the CDGs with certificates and pins recognizing their CDG status at a dinner on the second evening of the orientation. In attendance at the dinner were several of the original AAC Reengineering Process Action Team members and several Functional Chiefs, including Walt Hollis, Deputy Undersecretary of the Army for Operations Research. Charles' dinner

address to the first Year Group of CDGs included personal advice on how to conduct themselves as acquisition professionals.

On the last day of the orientation, each CDG member worked with their supervisors and sponsors to complete Individual Development Plans. ACOM and CAMB personnel were on hand at the orientation to offer advice and assistance to the CDGs, supervisors and sponsors in completing the IDPs. The IDPs were specifically tailored to the members' needs based on a review of their previous training, educational level attained, prior job assignments and CDG developmental assignment. The IDPs are living documents and are expected to change as the CDG develops. To assist CDG members and supervisors in their updates to their IDPs, our CDG YG97 will participate in the ACOM's pilot program to assess an automated IDP. After the IDPs were completed, a final presentation

was made by COL Thomas Rosner, Director, Acquisition Career Management Office, and the CDGs departed to begin the transition to their new assignments.

What Happens After Orientation?

When the CDG selectees formally accepted CDG membership and their developmental assignments, the Army Acquisition Executive Support Agency (AAESA), in coordination with the civilian personnel community, initiated personnel actions to reassign the members out of their current positions of record to their new CDG developmental positions. These developmental assignments are on the AAESA Table of Distribution and Allowances. At Army RD&A press time, most CDGs were working hard in their new positions.

Training The CDGs

All of the CDGs will receive comprehensive training opportunities to enhance their career development and to meet the objectives of their developmental assignments. Heavy emphasis is placed on training during the three-year CDG Program, with the expectation that the benefit of training will be realized when the CDG member serves as a senior acquisition leader in the future. Training identified on CDG members' IDPs include mandatory acquisition courses, seminars in leadership and management, and courses which are career-field specific.

One of the first training events for many of the CDGs will be their attendance at the Action Officer Force Integration Course (FIO), taught by the Army Force Management School, at Fort Belvoir, VA. This one-week course provides the student

Race/Ethnic	YG 97	% of YG 97	Applicants	% of Applicants
White	18	72%	493	71%
Minority	7	28%	149	24%
Not Listed			58	9%

Sex	YG 97	% of YG 97	Applicants	% of Applicants
Male	12	48%	168	69%
Female	13	52%	187	27%
Not Listed			25	4%

Education	YG 97
Bachelor's Degree	25
Master's Degree	24
Doctorate	1

Certification	Level III in One Acquisition Career Field	YG 97
One ACF		25
Two ACFs		13
Three ACFs		2

Assignment History	YG 97	YG 97	
Served in One ACF	14	Served in One command	9
Two ACF's	9	Two commands	8
Three ACF's	4	Three commands	3
Four ACF's	2	Four commands	3
		Five commands	2

Figure 2.

Heavy emphasis is placed on training during the three-year CDG Program, with the expectation that the benefit of training will be realized when the CDG member serves as a senior acquisition leader in the future.

with an excellent overall view of the Army and how the Army staff operates. All CDGs who have not recently graduated from the Army Management Staff College (AMSC) are attending the FIO course which began in late August.

Another training event for the CDGs will be attendance at the Materiel Acquisition Management (MAM) Course at Fort Lee, VA. This course, which the Army has recognized as the equivalent of Defense Acquisition University (DAU) Acquisition 101, provides the student with the basics of acquisition. Completion of the MAM Course (or Acquisition 201), is a prerequisite for attendance at the Advanced Program Management Course. Nine of the CDGs will be scheduled for attendance at the MAM course in October 1997.

Eighteen of the CDGs will be attending the Advanced Program Management Course in the second or third years of their developmental assignments and one will attend in the later part of his first year. Fourteen of the CDGs will apply for AMSC during their second or third years of the program.

In addition to DAU courses, the CDG members will be afforded the opportunity to attend several management and leadership seminars offered by various organizations and universities including: Organizational Leadership for Executives at the Center for Army Leadership; Congressional Operations by the Government Affairs Institute; Program for Manager Development at Duke University, Fuqua School of Business; Business Strategy at Columbia University, Graduate School of Business; and Developing Managerial Excellence: A Program for High-Potential Managers at the University of Virginia.

Experience Counts!

The CDG Program's developmental assignments will provide the CDGs with new, career broadening experiences. In addition, during various times of their developmental assignments, the CDG may be detailed out of their developmental position to a position that will further enhance their experience. These details may include working at another headquarters echelon such as a staff office at Headquarters, Department of the Army, or at MACOM or PEO organizations. Conversely, for someone assigned to a headquarters organization, they could be detailed to a Program Management office to gain on-the-ground program management experience. The possibilities are almost endless, within time and fiscal constraints.

Rapid Success!

There are no guarantees of promotion with the CDG Program. This Program is designed to identify high-potential individ-

uals and to make CDG members most competitive for promotion to critical acquisition positions. The training and experience built into the developmental assignments will broaden our CDG members' qualifications by providing work experience in more than one specialty area and/or at different organizational levels. Our CDG members will gain the knowledge, skills, and abilities, required to advance and perform successfully at the executive management level.

Three of the original 25 board selectees anticipated GS-14 job offers imminently and declined acceptance into the CDG Program. As of press time, four members of our Year Group 1997 had received GS-14 job offers! These four CDG members will still receive the education and training activities shown on their IDPs, with the concurrence of their new supervisors.

Conclusion

The CDG Program is a major initiative to improve the quality of the Army acquisition workforce. The CDG Program helps to fulfill that vision by developing the "premier professional corps of acquisition leaders... for the 21st century." We will continue this key acquisition career management program with CDG Year Group 1998. Lessons learned from this initial CDG Year Group will be incorporated into our CDG Program for Year Group 1998 and into our policy and procedures. Applications will be accepted from Sept. 1, 1997, through Oct. 31, 1997. The Selection Board will convene December 1-12, 1997. See your supporting Acquisition Workforce Support Specialist or the AAC Home Page [<http://dacm.sarda.army.mil>] for application information and procedures.

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CONTINGENCY CONTRACTING AND THE THEATER SUPPORT COMMAND

New Organizational Concepts

By LTC Steven R. Boshears
and MAJ Anthony J. Nicolella

Introduction

In the last several contingency operations from Desert Shield/Desert Storm to Joint Endeavor, contingency contracting organizations at theater level have lacked, for the most part, contractual unity of effort. Why? There is not a standardized, coherent contingency contracting concept and organization at Army theater level. There are three major reasons for this problem.

First, many contingency contracting organizations are formed ad hoc based on the expertise and experience of the Head of the Contracting Agency (HCA) or the Principal Assistant Responsible for Contracting (PARC). Although many of these organizations eventually function well, what inevitably happens is the Army "reinvents the wheel," adopting uniquely different contracting organizations for each contingency. Reviews of after action reports and lessons learned for Operations Restore Hope, Uphold Democracy, Vigilant Warrior,

and Joint Endeavor have shown continuing problems with contracting command, control, and organization at the theater level.

The second problem with contingency contracting is that many of the organizations involved lack a separate, independent contracting authority channel to the HCA/PARC. A staff officer from the Office of the Assistant Secretary of the Army (Research, Development and Acquisition), while observing the U.S. Army Command and General Staff College's (CGSC) Prairie Warrior (PW 96) exercise, recognized the need for an independent contracting authority channel. "The primary contracting command and control issue was where the HCA/PARC authority should reside."

Third, both joint and Service-specific doctrine on planning for and executing contingency contracting operations is still emerging. This combination of the lack of contractual unity of effort and separate contracting authority coupled with emerg-

ing contingency contracting doctrine is causing confusion and frustration, and is wasting precious resources that could be better spent supporting our troops during contingency operations.

Experience During Prairie Warrior 97

This article proposes one possible standard concept for organizing contingency contracting operations at Army theater level, based on the PW 97 scenario. The scenario, specifically 3d Army's theater organizational structure (Figure 1), was chosen for three reasons. First, the PW 97 exercise involved substantial forces: two Army Corps (II & III), a mobile strike force (a division size unit with corps capabilities), a Marine expeditionary force attached to II Corps, and a Theater Support Command (110th TSC). This large force structure was expected to cre-

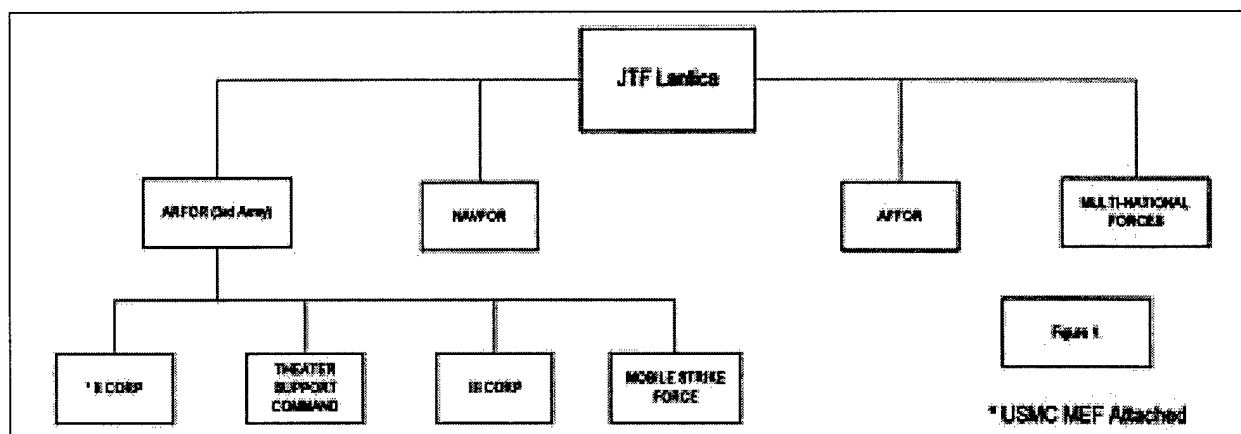


Figure 1.
The 3d Army's theater organizational structure.

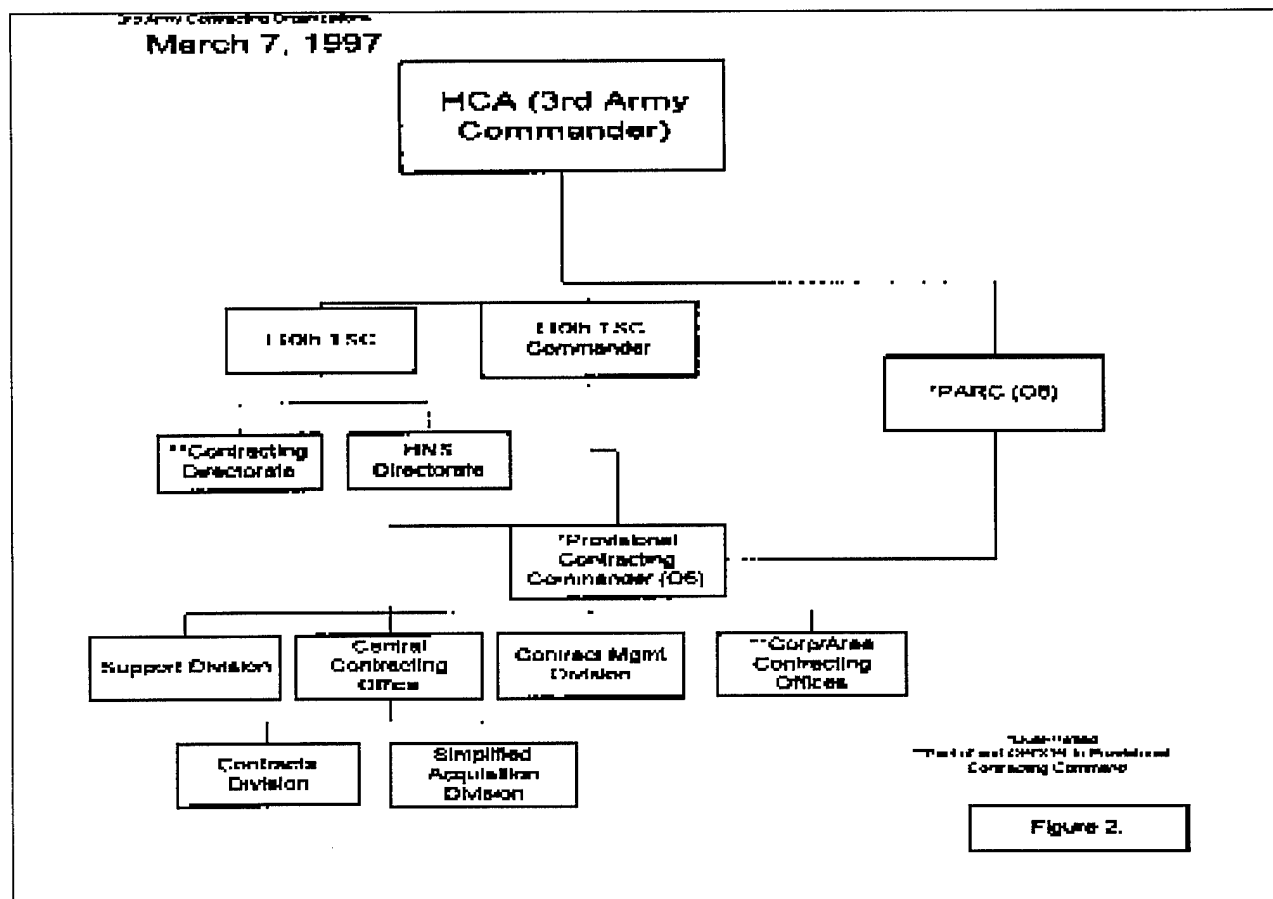


Figure 2.

The theater contracting concept created unique relationships among several key organizations and processes.

ate great demand for contingency contracting support. Second, PW 97 provided the realistic environment (Battle Command Training Program Corps Warfighter exercise) and trained contingency contracting officers (CCOs) at corps level and above (experienced CCOs from the CGSC class and from the reserve component units comprising the 110th TSC) necessary for organizing and conducting contingency contracting operations at the Army theater level.

The third and perhaps most important reason for selection of this scenario is that PW 97 presented the opportunity to integrate this new contracting concept with another new theater Army organizational concept: the Theater Support Command. This was vital, as shown later in this article, because both the conceptual contracting organization and the TSC are interdependent for external (customer) operations and internal (command and control, logistics, and administration) support.

As depicted in Figure 2, the concept created unique relationships among several key organizations and players: the 3d Army PARC, the 3d Army Provisional Contracting Commander, and 110th TSC Commander. The Provisional Contracting Command consisted of all Corps, Division, and augmentee Army contracting officers under the operational control (OPCON) of the provisional organization. In addition, the TSC Contracting Directorate was placed OPCON under the provisional organization. Dual-hatting the PARC as the Provisional Contracting Commander was expected to alleviate the lack of contractual unity of effort that has characterized previous operations. Specific expectations in this regard were: Reduction in major overlaps and duplications of contractual efforts in theater; improved coordination between the contracting command and the staff; and enhanced coordination between contracting officers, vendors, and host nation support (HNS).

The unique command and control relationship between the 3d Army PARC, Provisional Contracting Commander, and 110th TSC Commander, and their organizations was also expected to enhance command and control of theater contracting assets and allow the PARC to better fulfill his statutory and regulatory responsibilities as specified in the Federal Acquisition Regulation (FAR) and its supplements. Specific expectations were:

- **Improved situational awareness for the PARC.**
- **More effective deployment of qualified contracting personnel under contingency conditions from the Continental United States into theater.**
- **More timely and effective development of inter-command and inter-service agreements detailing contracting support relationships.**
- **Improved integration of contingency contracting support plans (CCSPs) with the operational plans**

and requirements originating from the 3d Army Staff.

For this concept to work, a viable organizational structure was created, as shown in Figure 2. Much of the support, command and control, and resources needed for accomplishing the PARC's mission are provided to him in his capacity as the Provisional Contracting Commander, through the contracting unit's attachment to the 110th TSC for administrative and logistics support. In addition, the 110th TSC and the 3d Army Provisional Contracting Command both play key roles in supporting each other's operations. This organizational structure was expected to accomplish three things:

- Provide the Provisional Contracting Command with the administrative and logistical support required to accomplish its mission,
- Allow the PARC to retain direct access to the HCA to fulfill his or her statutory and regulatory responsibilities, and
- Provide the 110th TSC Commander direct control of contingency contracting force structure and capabilities, except when such authority is inconsistent with law, the FAR, and its applicable supplements.

Observations And Lessons Learned From PW 97

The command and control and support relationships between the PARC/Provisional Contracting Command and TSC tested during PW 97 are not yet doctrine, but they do make sense. Not all of these concepts and expectations could be tested or validated during PW 97. The lack of fully integrated contingency contracting play in the exercise was one limiting factor. By all reports, the use of the SPECTRUM simulation to inject realistic play for contracting and related functions (HNS, finance, resource management, the Logistics Civil Augmentation Program (LOGCAP), etc.) was better than in any previous PW exercise, but there is still room for improvement. The other main limitation was the physical separation of the TSC and 3d Army. While closely linked electronically, the TSC was at Fort Lee, VA, while 3d Army was at Fort Leavenworth, KS. This physical separation exacerbated the normal "fog of war," especially when testing a new concept.

Despite these limitations, after action reviews from PW 97 did show several important results. The CCSPs of the 3d Army, the TSC, and the subordinate corps were well integrated, even if the execution of the plans was not always well integrated. Also, the location of the PARC at 3d Army level greatly enhanced the contingency contracting operations by allowing the PARC to quickly assess and, in some cases, resolve high level contracting issues (those above the authority level of unit contracting officers, such as ratifications and formalizing informal agreements). He could

also quickly and effectively confer with the HCA regarding contracting, FAR, regulatory and statutory matters.

Another benefit of this structure in PW 97 came from the PARC's role as a staff officer for 3d Army. It gave the PARC the ability to easily coordinate and communicate with other 3d Army staff officers in resolving theater-level contracting issues. The PARC's ability to directly interface with, and in some cases educate, key staff officers or activities on contracting matters allowed for improved coordination, distribution, and allocation of contracting assets and facilitated prompt payment of contingency contractors.

The usefulness of placing the PARC on the 3d Army staff was revealed early in the exercise. The Joint Task Force (JTF) Plan called for 3d Army to provide certain common logistics support (including contracting) to allied forces. The PARC was the first staff officer to recognize that agreements under the Foreign Assistance Act would be required with the non-NATO members (for NATO countries, acquisition cross-Servicing agreements already exist) of the allied forces. The PARC then took the lead in working this high-level staff action for the JTF Commander.

In the PW 97 after action review, the 110th TSC made two specific recommendations concerning contracting. The first was that the HNS and Contracting Directorates be merged in the TSC, as neither can effectively function without the other. The authors agree with this recommendation and would go further by including, through attachment, the Army Materiel Command (AMC) and Defense Logistics Agency (DLA) LOGCAP elements in either this directorate on the TSC staff or in the Provisional Contracting Command. Another observation by the TSC was that the participation of AMC and DLA (at the TSC level) in PW 97 allowed rapid, effective and synchronized LOGCAP operations. This success can be institutionalized by the preceding recommendation.

The second recommendation of the 110th TSC was that both the HCA and PARC be resident in the TSC. The authors respectfully disagree. Up to the present, HCA authority, and as a logical extension PARC authority, has resided no lower than the Army Service Component Commander (ASCC); in PW 97 this was 3d Army. This is consistent with the practice of the U.S. Air Force, where the Air Component Commander is designated the HCA by FAR supplement. Insulating the contracting function from the direct, exclusive supervision of requirements generators (like the TSC) is consistent with the FAR, the Goldwater-Nichols Act, and the "Deutch Memorandum." A doctrinal parallel at the installation level is that the Director of Contracting reports directly to the Garrison Commander, not to the Director of Public Works or Director of Logistics.

The organizational concept proposed by the authors bridges current doctrine and that proposed by the TSC. The PARC retains independence for statutory and regulatory matters with a direct reporting channel to the ASCC, while the TSC gains the ability to fully synchronize contracting as a support function through operational control of the Provisional Contracting Command.

Conclusion

The Army needs to quickly adopt a single, standardized, and coherent contingency contracting concept, organization, and doctrine for Army theater level operations. PW 97 allowed experimentation with and exercise of some, but not all, of the command and control and support relationships between the PARC/Provisional Contracting Command and the TSC. Additional time and effort should be invested in further study and validation of this and other possible concepts. Every effort should be made now, in peacetime, to validate and implement a concept that will maximize contracting support as a force multiplier for the 21st century.

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Introduction

In the current environment where commercial quality program certifications may cost up to \$30,000 and semiannual compliance audits can be as high as \$5,000, is it possible that the U.S. Army Materiel Command (AMC) can offer a comparable certification which only requires a contractor to invest their time and effort in the quest for "excellence?" Yes, it's possible and it's happening!

Since its inception in 1985, the Contractor Performance Certification Program (CP)2, a voluntary program open to all contractors, has been recognizing contractors who consistently deliver quality products, control processes, employ proactive audit procedures, and demonstrate aggressive continuous improvement efforts.

So what's the catch? Why is the government willing to use its resources to certify contractors? According to BG James W. Boddie, Commanding General of the U.S. Army Armament Research, Development and Engineering Center (ARDEC), "As part of its 'blueprint' for change, the DOD is striving for a significant reduction of contract manufacturing/management requirements and a corresponding decrease in government oversight activities to be replaced by cooperative government-contractor partnerships. Hence, ARDEC looks at the (CP)2 program as our strongest partnership vehicle and is committed to implementation to the maximum extent."

An Evolving Program

The Department of Defense, as is the case with industry, has had to deal with an unprecedented number of changes, including acquisition strategy changes, obsolescence of military standards, and numerous organizational changes prompted by downsizing. Accordingly, (CP)2 has evolved over the past 10 years. Managed independently, for years, by several major subordinate commands, (CP)2 was approved as an AMC initiative in 1995. The program is now recognized uniformly by all major subordinate commands.

In conjunction with the AMC initiative, (CP)2 has been revised to incorporate the ISO 9001 criteria. Despite the substantial changes, the integrity and blueprint of the certification program has remained resilient. The (CP)2 is recognized as one of the most demanding yet rewarding certifications, which is one of the reasons the certification process often concludes with an award ceremony attended by high ranking officials such as U.S. senators, congressmen, and local city officials, and military officers.

THE CONTRACTOR PERFORMANCE CERTIFICATION PROGRAM

By Steven M. Terronez

Benefits

(CP)2 provides benefits to certified government contractors. Certified contractors can expect less government oversight and relief from first article tests and from submitting some contract deliverable items (e.g. statistical process control plans, acceptance inspection equipment designs, quality program manuals). In addition, as a result of acquisition reform initiatives, certified contractors may have potential advantages in source selection. Even without some of the pending acquisition reform changes, the contractor stands to gain certain intrinsic benefits. Perhaps the greatest benefit to a contractor from the (CP)2 process is the improvement that occurs in his processes and procedures. The (CP)2 process drives contractors to improve their processes, which continue to improve after certification. How? The (CP)2 process, in essence, drives contractors to improve their processes by:

- Ensuring that all work being performed is being accomplished consistently via adequate work instructions;
- Ensuring that statistical process control techniques are being utilized to monitor, control, and more importantly, to learn valuable information about their processes; and
- Continuous improvement is a fundamental concept of the (CP)2 program;

Since its inception in 1985, the Contractor Performance Certification Program, a voluntary program open to all contractors, has been recognizing contractors who consistently deliver quality products, control processes, employ proactive audit procedures, and demonstrate aggressive continuous improvement efforts.

Hence, contractors, are required to monitor their quest for continuous improvement via a metric.

Another benefit is that the team's synergy often provides insights to process improvements. Additionally, the simple act of the government declaring a contractor an "excellent contractor" has advantages in providing potential recognition by other sources.

(CP)2 Comparison With ISO 9000

- **Costs:** There is no dedicated cost for the (CP)2 certification process. Conversely, ISO certifications can cost as much as \$30,000 for the initial certification and up to \$5,000 every six months for reassessments to maintain the certification.

- **Program Criteria:** The ISO 9000 certification program consists of 20 core elements (many of which were requirements of MIL-Q-9858). The (CP)2 encompasses the 20 core elements plus the following eight elements: customer satisfaction, quality costs, warranty performance, ethics, business planning, safety, environmental, and continuous improvement plan.

- **Audit Team:** (CP)2 advocates a proactive partnership teaming approach between the contractor and government. Accordingly, the (CP)2 audit team is comprised of both contractor and government personnel with each team member having an equal voice relative to the assessment. Under the commercial ISO certification process, the auditee is not part of the audit team.

- **Time Span To Achieve Certification:** The (CP)2 involves an audit process (with several audits) which can range from six months to two years. Depending on the state of the contractor's program at the beginning of the (CP)2 process, it is plausible that a contractor could achieve (CP)2 certification upon completion of the initial assessment. The duration of the ISO certification process, which is generally less time-consuming than the (CP)2 process, is also dependent on the state of the contractor's quality program.

Where is the advantage? There really is no advantage to the (CP)2 program in this area. We are just making a statement of fact. The (CP)2 audit process is a more detailed, critical audit because of the risk involved in certifying a contractor whose quality program is not deemed world-class. You see, the ultimate customer of the products we buy is the soldier. Consequently, when we relax QA requirements (no first article, less government oversight, etc.) for the (CP)2 contractor, we must be confident that the contractor's system will produce quality

Companies that pursue the Contractor Performance Certification Program want to become and stay "world-class" in their own eyes and in the eyes of their customers!

goods which meet or exceed customers' expectations. The commercial ISO folks don't have concerns driving their system.

- **The Key Difference:** While ISO registration has a fee and (CP)2 is free, both essentially ask a company to make an investment to put their quality system on a defined level. So, in terms of dollars, the utility of either recognition is often debated in many companies. Some opt for ISO to avoid letting the customer see the shortcomings in their quality system. More and more opt for (CP)2 to bring the customer into a closer relationship, and a true partnership. Companies that pursue (CP)2 want to become and stay "world-class" in their own eyes and in the eyes of their customers!

Program Status

Perhaps caught up in the wake of the popularity of other commercial and state certifications, or possibly due to powerful endorsements by individuals like BG Boddie who stated "The goal being a fully (CP)2 certified supplier base," (CP)2 activity has increased significantly during the past year. According to Diann Carran, ARDEC Deputy (CP)2 Coordinator at Rock Island, IL, "This is really an exciting time for (CP)2. We currently have more interest and more active participants in (CP)2 than ever before. It appears companies are starting to see the need to move an organization from an attitude of just complying with the minimum requirements toward achieving organizational excellence."

Testimonials

The following comments are representative of those routinely received from (CP)2 industry participants:

"(CP)2 is a fair and thorough assessment of a company's long term commitment to quality improvement and customer sat-

isfaction ... (CP)2 is a worthwhile investment ... the more you put in it, the more you will get out of it."

**-Parvez Siddiqui
PEI Electronics Inc.
Huntsville, AL**

"The purpose of attaining (CP)2 certification was to raise the quality awareness of DDC's employees. It served this purpose very well. Since obtaining (CP)2, DDC has become certified to ISO 9001. It should be noted that the latest revision of the (CP)2 program fits perfectly into our goal of becoming QS-9000 certified. The major benefit of (CP)2 has been the development and tracking of 'key' quality metrics. Substantial cost savings have been derived from the continuous improvement of these metrics."

**-Ron Berry
Detroit Diesel
Corporation
Detroit, MI**

The Future

No one can really predict the future of a government-generated initiative. However, in view of the fact that the (CP)2 program was initiated and deemed an excellent program prior to all the excitement about acquisition reform initiatives and certifying contractor facilities, and is in concert with the current acquisition reform environment, it appears the Contractor Performance Certification Program will be viable well into the 21st century.

For additional information on the (CP)2 program contact Marc Saperstein, Picatinny Arsenal, NJ, at (201) 724-3557, Diann Carran, Rock Island Arsenal, IL, at (309) 782-7603, or Diane Meyer, Rock Island Arsenal, IL, at (309) 782-6703.

STEVEN M. TERRONEZ is a product quality manager at the U.S. Army Armament Research, Development and Engineering Center, Rock Island Arsenal, IL. He has a B.A. degree in biology from St. Ambrose College and is a certified ISO 9000 lead auditor.

Doing More With Less...

ORAL PRESENTATIONS IN SUPPORT SERVICES SOURCE SELECTION

By David L. Place
and Patricia H. Ruppe

Introduction

Have you spent weeks analyzing volumes of proposals only to identify the same number of strengths and weaknesses for all offerors? Are you searching for adjectives between good and excellent? Have you burned the midnight oil on a technical source selection and found your rating of offerors in marked contrast with your esteemed peers? . . . There must be a better way.

The Program Executive Officer, Intelligence, Electronic Warfare and Sensors (PEO-IEW&S) recently awarded an "Omnibus" Core Acquisition Program Management Services contract in support of all PEO IEW&S, related Project/Product Managers (PMs), and Project Officers

(POs). This solicitation and source selection process marked a significant departure from past practices. By keying only on a few critical discriminators and using "oral presentations" for technical source selections, we believe we have found a more straight-forward way and a true case of doing more with less in support services source selection.

What Are 'Oral Presentations'?

The Source Selection Evaluation Board's (SSEB) technical evaluation was accomplished primarily with a process referred to as oral presentations. Our Offerors' proposals were not volumes of prepared text

indicating what they could do, but actual demonstrations of capabilities. Oral presentations placed the government evaluation team face-to-face with a team put together by prospective offerors to address real-world issues at the core of the PEO IEW&S business environment.

Source Selection Approach

Our procurement method was a "best value" competitive set-aside for a small business. Our evaluation's **primary objective** was to assess the offeror's capability, knowledge and understanding of the work to be performed. The evaluation team felt we could better assess an offeror's capability through demonstrated performance rather than by what they write about themselves (either collectively as a proposal, or individually as a resume). Again, with demonstrated performance in mind, our solicitation evaluation factors were kept to a minimum. Figure 1 provides a tabular depiction of the factors and subfactors.

Clearly, a "performance" theme runs throughout the two most important factors. The performance risk assessment group (PRAG) assessed each offeror's performance as viewed by their past and current customers. Technical proficiency assessed potential performance largely via oral presentations. Price was rated lowest to clearly demonstrate to offerors we were serious about performance and about best value. This rating schema reflected our willingness to pay more for "better value" (i.e., more credible/consistent past performance and/or more insightful technical acumen and team synergy).

The results of our performance approach were somewhat surprising. Even though the performance risk factor was our intended strategic objective (only high quality past performers need propose), it did not provide clear discriminators among credible offerors. Therefore, the technical proficiency factor, as our second weighted criteria, became the clear discriminator for source selection purposes, for which the oral presentation process was the key.

Our secondary objective was to reduce proposal costs and evaluation time. Every element of the evaluation criteria was critically assessed to verify it would represent a real discriminator among offerors. Typically, resumes of all key personnel and organizational management plans are requested for a management factor, but these do not serve as a true discriminator for evaluation. Therefore, the management factor and the evaluation of resumes were eliminated. We found the oral presentation technique clearly presented the

offeror's capability, knowledge and understanding of our key issues in a manner that was readily evaluated. Each evaluator's assessment was highly insightful regarding the offerors' capabilities, which quickly led to a common evaluation. This consensus increased our confidence that the offeror will perform successfully under the contract and significantly reduced evaluation time.

Oral Presentations Process

The solicitation required offerors to respond to two "technical proficiency" subfactors by submitting briefing material prior to the Request For Proposal (RFP) deadline. The solicitation included specific guidance for preparation of the presentation material, scheduling, personnel, media, facilities and notification of the intent to videotape. Since it was impossible for all offerors to present concurrently, offerors were not to change briefing material between proposal delivery and presentation time.

Presentations of the material were scheduled by the contracting officer. Each offeror completed both presentations in one day. The Source Selection Evaluation Board (SSEB) panel was staffed with sub-

ject matter experts. The evaluation team did not preview the briefing materials before the presentation to avoid bias during the offeror's presentation. The SSEB chairperson, contracting officer and attorney attended all presentations. After each offeror's presentation, the government evaluators met to develop clarifying questions. Legal guidance was helpful in eliminating leading questions that would give offerors the opportunity to expand on responses outside the data originally presented. The question-and-answer period completely replaced the Item For Negotiation (IFN) process, thereby saving months in evaluation time.

Oral Presentation Subfactors

Two subfactors were tailored to reflect issues of interest to PEO IEW&S. These subfactors were designed to embody meaningful discriminators of the offeror's technical proficiency and be a true test of team capabilities.

The first subfactor was designed to test quick reaction capability. We restricted preparation time by notifying offerors that the subfactor would be posted on the CECOM Electronic Bulletin Board three days prior to the proposal deadline. The

three-day preparation time tested the offeror's resources and organizational capability to receive a task, interpret, organize and prepare a response under significant time pressure. Offerors were required to analyze the integration of three IEW&S sensor technologies onto manned and unmanned airborne platforms. Key to this subfactor was Horizontal Technology Integration (HTI) of common system elements across many systems or platforms. This concept is being used successfully within PEO IEW&S and is seen as an approach with substantial potential for reducing the cost of capabilities. Key discriminators embodied in this subfactor were knowledge of sensor capabilities, platform integration issues, commercial reuse practices and processes. Figure 2 provides a graphical depiction of the task.

The second technical subfactor emphasized acquisition management and was included in the final solicitation, providing the full 30 days for response. PEO IEW&S has been on the leading edge of such reform and wanted to ensure their support contractor, as a partner in the acquisition process, would augment our fully committed approach. The primary

FACTORS (In order of Importance)	SUB-FACTORS	FORUM
Performance Risk	None	Written proposal
Technical Proficiency	Sub-factor 1 Horizontal Technical Integration (HTI)	Oral Presentation
	Sub-factor 2 Performance Specification	Oral Presentation
	Sub-factor 3, Organization Teaming Plan	Written proposal
Price	none	Written proposal

Figure 1.
Source Selection Factors And Subfactors.

*By bringing
together
the right
talent
and addressing
the right
information
in the
right forum,
we were
truly able
to do more
with less
through
oral
presentations.*

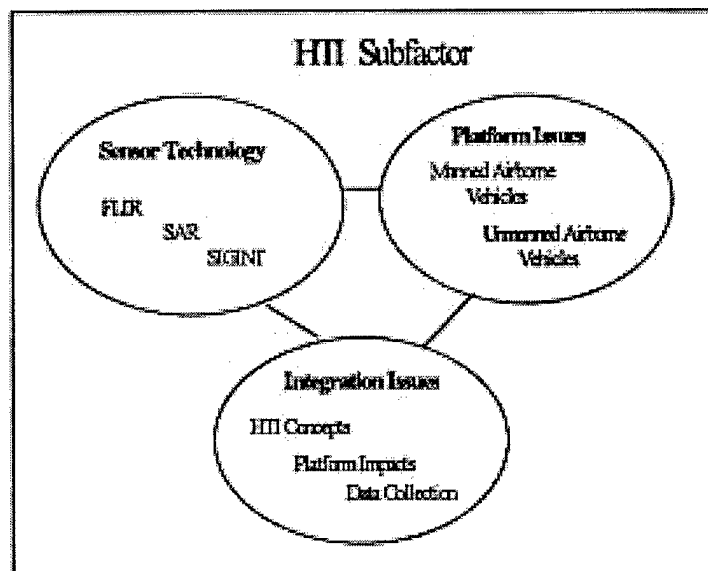


Figure 2.
Subfactor 1,
Horizontal
Technology
Integration.

intent of this task was to evaluate the offeror's understanding and currency with regard to DOD and Army acquisition reform and commercial best practices. In addition to the presentation materials, this draft performance specification for an unmanned aerial vehicle (UAV) ground control station was to be delivered as a part of the technical proposal. Figure 3 provides a graphical depiction of the task.

What Did We Learn?

Government Perspective: The primary

lesson learned was **more information is not necessarily better** for evaluation of an offeror's technical proficiency. We believe even further streamlining can be accomplished. For example, our evaluators saw little value in the Organizational Teaming Plan. Our experience indicates one day of presentations with one or two carefully selected subfactors is sufficient. Moreover, fewer evaluation elements led to a more insightful and consistent evaluation.

The scope and restrictive timing of Subfactor 1 were key to identifying the

most capable among a group of highly professional, motivated and reputed offerors. Clearly, the quality of the responses was influenced by the time available to organize a team responsive to the requirements. We believe, giving more preparation time (as in Subfactor 2) allows potentially less capable offerors to "catch up" through research and regurgitation of open literature. Under restrictive time constraints, exhaustive research and preparation are not possible and the inherent capability of each offeror will surface.

Industry Perspective: Feedback from industry on our oral presentation process has been positive. They specifically lauded the appropriateness of the topics used, and the elimination of the management rating factor and resumes. However, at the debriefings the offerors indicated that a higher skill level is required to respond to the tailored subfactors defined by the evaluation team. These costs offset the savings from decreased volume of text required in comparison to traditional written technical proposals. The net result was little or no savings in proposal preparation costs. Several offerors indicated that it may have even been more expensive. One offeror, suggested three potential reasons for this:

- Offeror's learning curve in responding to oral proposals;
- Dedicated resources are required for oral presentations and are not needed for written proposals; and
- Rehearsals (dedicated time of a number of high-level people).

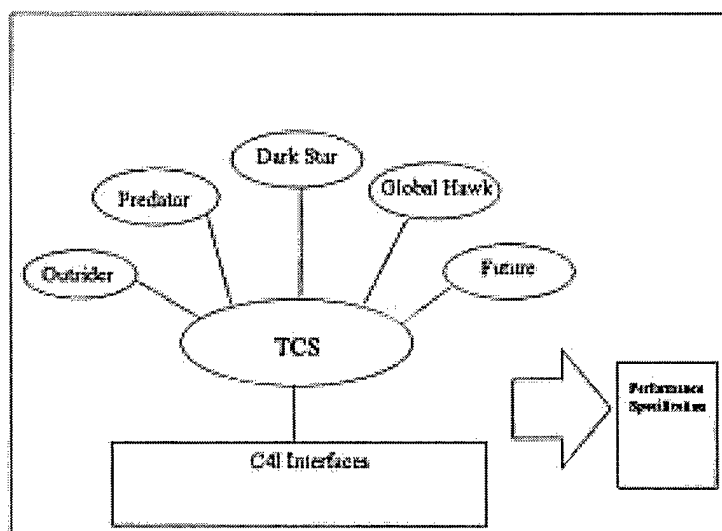
Conclusion

By bringing together the right talent and addressing the right information, in the right forum, we were truly able to do more with less through oral presentations. Through this approach we selected the best value contractor team for the PEO IEW&S support services.

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Figure 3.
Subfactor 2,
Performance
Specification.



Partners On The Battlefield...

MATERIEL DEVELOPERS, COMBAT RATION PRODUCERS AND SOLDIERS

By Brian M. Hill

Introduction

Pursuing its commitment to integrated product and process management (IPPM) and to the ultimate customer—the soldier, the U.S. Army Soldier Systems Command's (SSCOM) Natick Research, Development and Engineering Center (NRDEC) met Feb. 21-22, 1997, with the Combat Ration-Integrated Product Team (CR-IPT) at the Joint Readiness Training Center (JRTC) in Fort Polk, LA. The CR-IPT is composed of Meal-Ready-To-Eat (MRE) manufacturer's representatives, scientists from SSCOM and soldiers training at Fort Polk.

The purpose of the two-day meeting was to familiarize ration producers with the challenges and field conditions experienced by soldiers under realistic battlefield conditions. This innovative CR-IPT approach was intended to foster and promote improvements in combat rations and to open a direct communication channel between the ration producers and their ultimate customer, the soldier. The face-to-face meetings with the troops in the field allowed the manufacturers to obtain real-time feedback on combat rations which they produced, concurrently as the rations were consumed by soldiers on a simulated battlefield.

Background

The visit to the JRTC was coordinated by the Associate Director of Natick's Sustainability Directorate; the Executive Director, Research and Development Associates (R&DA) for Military Food and Packaging Systems and the JRTC Army Materiel Command-Field Assistance in Science and Technology (AMC-FAST) Science Advisor. The JRTC was an excellent site for the meeting since the JRTC's mission is to train light infantry units to respond to worldwide contingencies.

Trainees at the JRTC are subjected to various climatic conditions, varying topography and realistic battlefield and simulated terrorist activities. In addition, special training areas and live-fire ranges offer other extensive training opportunities.

As with any planned visit to an operational unit in the field, plans and schedules required constant revision because of changes in worldwide contingencies, training schedules and taskings of military units. Ultimately, the visit was hosted by the 142nd Corps Support Battalion (CSB) of Fort Polk's Warrior Brigade. The Warrior Brigade is a flexible organization designed to expand and deploy rapidly during mobilization and contingency operations, as it did during Operations Desert Shield and Desert Storm.

The 142nd CSB was an excellent representative of an operational combat unit in terms of being a thoroughly knowledgeable customer for the CR-IPT to interact with. It is also a very seasoned unit in terms of readiness and experience regarding any issue from the soldier's perspective. This perspective complemented the CR-IPT's management experience with the food industry and the DOD materiel acquisition process. The CR-IPT industry representatives consisted of a total of nine operational ration manufacturers and assemblers. These contractors represented producers of MRE retort pouches, accessory packs, plates/utensils and food products. Seven of the companies were represented by either the president or vice-president of their respective firms, while the other two companies were represented by their lead technical experts.

On the evening of Feb. 21, 1997, the Fort Polk Garrison Commander welcomed the CR-IPT at an informal gathering sponsored by the R&DA. Officers and non-commis-

sioned officers of the 142nd CSB, as well as other Fort Polk food service and veterinary personnel, participated in the informal gathering. The meeting provided corporate officials with an opportunity to meet and talk to the soldiers in an open environment prior to going to the field the next day. Discussions took place not only with the Command Staff but also with NCO and enlisted personnel. This open-ended dialogue provided the contractors with user feedback from food consumption, supply, distribution and veterinary points of view.

Site Visit

On Feb. 22, 1997, the CR-IPT ate breakfast at the Enlisted Dining Facility before going to the JRTC Command Conference Room where it received the JRTC and Fort Polk command briefings. This provided the team with insight into the total experience soldiers have of the complete Army food service system (garrison feeding, field feeding of A-Rations, and field feeding of Tray-rations). Garrison food service personnel in the dining facility are also trained to prepare quality food in a field setting as well. During the command briefings, the contractors were given information on the full spectrum of the command's mission and soldiers' training requirements.

At the completion of the command briefings, the CR-IPT went to the field training site to observe a field training exercise (FTX). The CR-IPT broke up into small groups which were accompanied by military escorts.

The groups had free access and interaction with soldiers who were training and eating in the field. The military escorts guided the groups to various remote sites as well as interceded when the civilian-attired visitors were challenged by sol-



Combat Ration Integrated Product Team member talks with soldiers about MREs.

diers. Because JRTC training simulates realistic battlefield conditions, the JRTC often uses civilians to play various roles to affect scenarios soldiers might face, such as terrorists, local dissent, etc.

In order to put soldiers at ease and to obtain feedback in a free-wheeling format, the CR-IPT members often sat on the ground with soldiers and solicited their opinions and recommendations on current and future field rations. An added benefit of the visit was that SSCOM scientists gained first-hand knowledge and feedback on operation of combat service support and organizational equipment developed by the NRDEC. Specifically, the 142nd was operating the Mobile Kitchen Trailer (MKT), the M-2 burner, the M85 field laundry, the field shower, tentage and clothing repair facilities. It is not often that materiel developers can observe the operation of a fully operational combat service support site utilizing the full spectrum of combat service/unit and organizational equipment. In turn, the CR-IPT had the opportunity to observe food service personnel operating the MKT and setting up for an evening meal serving tray pack food products.

During the noon meal, soldiers at both the main site and at remote defensive perimeter positions ate MRE XVs produced in 1995. These MREs included many of the improvements that have been made, including larger portion sizes, new entrees such as grilled chicken, pork chow mein, four varieties of wet-pack fruit, various snack items such as a fudge brownie and pound cake, easy opening pouches and longer spoons. In addition, the 142nd CSB was also serving vegetarian MREs consisting of pasta primavera and cheese tortellini. Since its introduction, the MRE has been continuously improved, specifi-

cally as a result of feedback from Operations Desert Shield and Desert Storm. In discussions with soldiers of the 142nd CSB, the CR-IPT learned how changes to their products were being received by obtaining first-hand, real-time feedback.

Some of the CR-IPT members had the opportunity to handle M-16 rifles equipped with the electronic Multiple Integrated Laser Engagement System (MILES). Others tried on field gear such as helmets and gas masks with hoods. One daring individual applied camouflage face paint in accordance with instructions readily offered by some of the soldiers.

At the completion of the FTX observation period, the CR-IPT was transported to a Military Operations in an Urban Terrain (MOUT) training complex located at Fort Polk. Here, they received a briefing viewed a video, and took a guided walking tour of the mock city.

Feedback

After the site visit, 20 enlisted soldiers and officers from the Warrior Brigade attended a working dinner to review the day's activities and learn about new items being developed by SSCOM. A question and answer session later revealed that many of the soldiers and officers were unaware of the efforts to provide them with new and improved rations and combat service support equipment. Soldiers know when products aren't meeting their expectations but are often unaware of the research and development efforts to improve these items, especially when it comes to quality-of-life issues. It was apparent that the soldiers were impressed with the SSCOM developmental initiatives. Additionally, soldiers and officers

expressed their sincere appreciation for being included in the developmental process.

The results of the CR-IPT visit were beyond the expectations of the planners. One corporate official was quoted as saying, "We will be introducing several new entrees over the next few years and wanted to come to the Army's board room—the field, to hear from the customers, soldiers. As you can see, this is something our company is committed to; doing this type of direct feedback is extremely valuable and useful to us."

Another executive was quoted as saying, "The fastest way to learn is straight from the horse's mouth. This reduces sugarcoating as opinions get passed up the chain. The troops were open and sincere about their comments and suggestions. We have some things to take back to the committee."

A facsimile received after the visit from one of the visitors stated, "Thank you for taking me along; it gave me a much clearer understanding of how the soldier uses our products. We are proud to be part of the team that supports them."

Comments received from the soldiers included:

- "I appreciate the interest and face-to-face meeting."
- "The pasta with vegetable is excellent."
- "The cheese tortellini was pretty good"
- "I also had the cheese tortellini; it was good and I rank it right up there with the ham slice"
- "I like the new meal; I had the cheese tortellini and it is better than some things I've bought in a can."

Universally, soldiers like the flameless ration heater which was introduced during Operation Desert Shield/Storm and is used to heat MRE entrees.

Conclusion

This effort was a resounding success and demonstrated the importance of IPPM and the IPT philosophy implemented by DOD. All-in-all, the innovative initiative taken by SSCOM to bring soldiers, developers and corporate executives together on the battlefield will result in enriching the communication and developmental process to improve the quality-of-life for soldiers.

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CORPUS CHRISTI DEPOT'S ROTARY WING SUSTAINMENT PROJECT

By Dr. John F. Ayala

Introduction

Declining Defense budgets have increased the Department of Defense (DOD) awareness and emphasis on "higher" quality products with "reduced" cycle time at a "lower" cost in the re-manufacturing of DOD weapon systems. Competition with industry, downsizing, base closures, privatization, new and changing environmental laws, and the extraordinary demands imposed by using current weapon systems beyond their intended life are significantly changing the way depots do business. In a continuous effort to improve quality and cycle time, and reduce costs at Corpus Christi Army Depot (CCAD), the Engineering Directorate has developed a multi-million dollar, multi-task, customer-driven applied research project for rotary wing aircraft maintenance and sustainment beginning in fiscal year 1997. Known as the CCAD Aircraft Sustainment Project, it is expected to result in improved commodity quality, a 20 to 30 percent reduction in cycle time, a \$10 million cost avoidance starting in fiscal year 2001, and

a global increase in rotary wing operational readiness.

What Is CCAD?

Corpus Christi Army Depot provides full-service organic depot capability and logistics support for all Army and some Navy, Air Force, and Marine Corps aviation helicopter systems. In addition, CCAD supports all major helicopter systems developers and users throughout the entire life cycle of an aircraft. Major commodities produced by CCAD include helicopters, blades, engines, transmissions, gearboxes, avionics, hydraulics, and airframes. Furthermore, CCAD currently does 30 percent cross-Service work and this rate is growing. Moreover, CCAD has 24 military customers, with the Coast Guard expressing interest in sending its workload to CCAD. A list of weapon systems supported by CCAD is shown in Table 1.

The Problem

During the last six years, military helicopters have gone through significant

configuration design changes. For example, major components and sub-components of the helicopter have changed from metal to non-metal composites and from analog to digital electronics. Because of these changes, the helicopter is performing more efficiently and effectively in the field at a cheaper cost. In order to satisfy the customer's needs and ensure future workload for CCAD, new equipment and processes were developed and procured. As a strategic policy, CCAD focuses on the modernization and upgrade of new and existing equipment with an emphasis on high technology systems to improve capability. Correspondingly, this has increased the gap in the quantity of workers who have the needed skills and can keep up with technology to support continuous advancement at CCAD.

As noted earlier, a number of factors are changing the way CCAD does business. In particular, CCAD has been significantly impacted by dynamic changes such as the privatization of Kelly Air Force Base,

Table 1. Weapon Systems Supported By CCAD

<u>Department of the Army:</u>	<u>Department of the Navy:</u>	<u>Department of the Air Force:</u>	<u>Department of the Marines:</u>
• H-64A Apache	• H-60 Seahawk	• H-60 Pavehawk	• H-1W Super Cobra
• H-60 Black Hawk	• H-1N Huey	• H-1N Huey	• H-1N Huey
• H-47D Chinook			
• H-1N Huey (component)			
• H-58D Kiowa			

TABLE 2. Project Objectives and Goals

OBJECTIVE	GOAL
1. Develop, demonstrate, and integrate improved thermal curing blanket technology for repairing H-60 main rotor blade leading edge surfaces.	Uniformly maintain cure temperatures within +/- 10 degrees Fahrenheit across the main rotor blade surface at distances ranging from 22 to 33 feet for 90 minutes.
2. Develop, demonstrate, and integrate a prototype rotor blade static balancing to support all DoD main rotor blades.	New industry standard practice for static and dynamic main rotor blade balancing. Reduce cycle time by 15% for dynamic testing over the existing Whirl Tower.
3. Develop, demonstrate, and integrate material state base models for autoclave and heat cured DoD composites repair and sustainment of rotorcraft processes at CCAD.	Optimize material properties in relation to time/temperature standards to determine composite material state and manage repair procedures.
4. Develop, demonstrate, and integrate a pilot system for computerized, highly flexible surface treatment of flight safety rotorcraft parts/components.	Reduce/eliminate fallout, enhance safety of flight confidence, improve the overall quality, and provide substantial savings throughout the entire aircraft lifecycle.
5. Develop, demonstrate, and integrate a state-of-the-art in automated preventative and predictive maintenance expert system for production critical capital equipment (i.e. Whirl Tower, Autoclave, Engine and Transmission Test Cells, etc.).	Early prediction and warning of machine deterioration and increase machine quality, reliability, availability, maintainability capacity, and throughput throughout the entire machine life cycle.
6. Develop, demonstrate, and integrate manufacturing and engineering systems that are above-the-factory-floor activities which plan, schedule, and control the repair, manufacturing, and sustainment of rotorcraft operations.	Reduce the overall CCAD cycle time by 20% to 30%.
7. Develop, demonstrate, and integrate chemical process technologies and practices focused on rotorcraft full service requirements.	Significantly reduce chemical process cycle time and the fallout/scrap/rework rates on DoD rotorcraft parts/components.
8. Develop, demonstrate, and integrate new component testing technologies and practices focused on rotorcraft full service requirements.	Reduce/eliminate fallout of repair/overhaul component workload for DoD engines and transmissions.

San Antonio, TX, and the base closure of Navy Depot Pensacola, in Pensacola FL. With each of these events, there have been both positive and negative impacts on CCAD. One positive impact is the increase in Defense commodity workload for CCAD, which adds to our diverse product mix. Correspondingly, this positive outcome has resulted in an increased operational need for machine and facility capacity; flexibility of the capital equipment and the facility; flexibility and increase in the labor force; and management mechanisms to control material flow, production resources, and quality.

As a result of these increased operational needs, CCAD's cycle time and cost have increased, causing an unexpected loss of DOD helicopter and component programs to private industry. Additionally, CCAD is going through a

potential reduction in its labor force, which further highlights the need for repair technology development and insertion of rotary wing aircraft to streamline production and quality to satisfy customer requirements.

The Solution

The thrust of CCAD's Aircraft Sustainment Project is to implement tasks which directly impact and improve repair cycle time, quality, work-in-progress, responsiveness, and environmental quality on the shop floor. This is achieved by transferring technology from research and development to the production arena using cooperative teaming efforts between academic, industry, and government entities. The objective is to develop and demonstrate affordable customer-driven repair and re-manufacturing technologies and practices on weapon sys-

tems supported by CCAD to deal with the extraordinary demands imposed by using current weapon systems beyond their intended design life. Key maintenance and sustainment issues that this project shall address are as follows:

- Aging DOD rotorcraft fleet,
- Affordability for DOD customers,
- Weapon system complexity and emerging technologies,
- Differences in cross-Service overhaul and maintenance requirements and systems,
- New and changing environmental laws,
- Responsiveness in repair cycle time and parts availability,
- Quality assurance and international quality standards, and
- Equipment and facility flexibility for

Table 3. Potential Beneficiaries

Department of the Army:

- H-66 Comanche

Department of the Navy:

- H-2 Sea Sprite
- H-3 Sea king
- H-46 Sea Knight
- H-53D Sea Stallion
- H-53E Sea Stallion

Full-Service Commodity Depots

Air Logistic Centers

Naval Shipyards

Industrial Facilities

full-service DOD workloads.

An important aspect of this program is the establishment of a unique coalition among CCAD, industry, academia, and other government organizations to engage in a multi-year improvement project. These organizations are actively involved in defining the focus for applied research and development and the direction of the project. In addition, they participate in developing and demonstrating state-of-the-art technologies and improved manufacturing processes by providing technical expertise and support.

Scope Of Work

The CCAD Aircraft Sustainment Project will focus on achieving technical objectives most beneficial to the organic and industrial full-service capability and logistics support of Army, Navy, Air Force, and Marine Corps aviation helicopter weapon systems. The unique full-service requirements of CCAD for maintaining, sustaining, and repairing CCAD rotary wing aircraft require multi-disciplinary and multi-variate approaches to problem solving. CCAD, in conjunction with the coalition, will develop and demonstrate improved and affordable aviation manufacturing technologies by implementing applied research and development projects. Project objectives and goals are shown in Table 2.

Benefits

The benefits of this project will be a direct result of establishing organic and industrial capabilities to support life extension of aging aircraft systems, streamlined process flow, improved materials handling, optimized processes and tolerances, and reduced scrap and rework rates.

Related Efforts

All of the tasks identified in this article are unique. They have never been implemented by "re-manufacturing" helicopter organizations such as CCAD. Re-manufacturing helicopters means rebuilding

them after about three to five years of use, repairing parts whenever possible, and replacing as needed. The technology, related research efforts, mathematical models and algorithms used in "pure" (built not from scratch) manufacturing, do not necessarily apply to re-manufacturing. One major reason for this is that re-manufacturing is far less predictable in terms of which parts or repairs will be needed, based on the condition of the helicopter.

Implementation Plan

Each task in this project requires an industrial, academic, and/or government partner committed to demonstration of technology and its full implementation throughout CCAD. The partners are active participants in the development and demonstration of the technology and are expected to demonstrate the technology at CCAD at the successful conclusion of each task. Currently, CCAD is working with the Department of the Army's Manufacturing Technology (MANTECH) Program Office at Headquarters, Army Materiel Command (HQ, AMC) and the Aviation Troop Command. During the execution of this project, CCAD will provide project management, technical requirements, and engineering services. To fully implement, expand, and realize all benefits at the depot, CCAD intends to leverage, with other DOD MANTECH programs, as well as other organic industrial programs.

Technology Transfer

A key aspect of this project is that each task was developed with "built-in" technology transfer as a deliverable. During the development and demonstration, and after the conclusion of each task, information on the technology, benefits, and implementation will be released to HQ, AMC. The knowledge gained and information/ data developed will be accessible to other government agencies interested in pursuing implementation. Additionally, CCAD will support other government agencies with technology transfer and

implementation of technology through on-site visits to provide advice on CCAD technology, solve problems, and make recommendations regarding equipment, tooling, materials, and software. A list of potential beneficiaries from this project is shown in Table 3.

Conclusion

In the climate of declining Defense budgets, downsizing, base closures, and privatization, affordability for DOD customers is more important than ever, especially when weapons systems are used beyond their intended design life. CCAD's leadership is working diligently to ensure that America's soldiers are provided with the best re-manufactured weapon systems available. The CCAD Rotary Wing Aircraft Sustainment Project intends to do this.

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DOCUMENT GENERATING SHELL

*A Powerful Tool
For Program And Project Managers*

By Gary McPherson

Introduction

Program, Project and Product Managers (PMs) have the responsibility of fulfilling a variety of requirements in an increasingly resource constrained environment. Downsizing, funding cuts and early-outs have sapped many organizations of both physical resources and professional expertise. Program requirements must be accomplished on schedule at a minimum life cycle cost while maximizing customer satisfaction.

Program office staff members have the daunting task of ensuring detailed, accurate, and comprehensive planning for all elements of their program. All these elements must be properly integrated and tradeoffs made to ensure selection of acquisition alternatives which produce the best operational performance at the lowest life cycle costs.

Typically, planning for each program element requires familiarity with numerous regulations, expertise in applying available guidance and the ability to improvise solutions where guidance is lacking. The interdependence between program elements and the need to optimize all the program objectives further complicates the planning process.

In such an environment, PMs must get the most out of all available resources. To do so, a comprehensive plan is a necessity. Yet, developing and maintaining plans takes time away from other critical tasks. In this constrained environment, PMs must look to productivity enhancing tools to automate, simplify, and improve the performance of their staff.

A Powerful Management Tool

A powerful managerial tool available within DOD is the Document Generating Shell (DOCShell). The DOCShell is a rule-based, expert system designed for use by PMs and their functional support personnel.

The DOCShell software is an application for personal computers running Microsoft Windows 95 or Windows NT. The DOCShell expert system provides a user-friendly environment in which to author and staff virtually any type of planning and execution documentation required during the course of a program or project. In addition to providing an individual with assistance in writing program management documentation, DOCShell provides an automated environment which supports collaborative or

teamwork efforts in preparation of such documentation. In the multi-user mode, several subject matter experts may contribute simultaneously to different portions of the management documents which must be prepared. After an initial draft of a given document has been prepared, DOCShell then provides support for staffing of the draft document electronically to team members and reviewers for comment. Internal to DOCShell is a commenting capability.

Capabilities

When using DOCShell to prepare a given document (such as an Acquisition Strategy), the user is prompted via interactive question-and-answer sessions to address appropriate issues in each section and subsection of the management document. Using decision logic embedded within the DOCShell, the knowledge base determines when or whether to ask questions and can even recommend answers. DOCShell utilizes a variety of question types which can be presented to the user (e.g., single answer, multiple choice, character string, narrative text block). Follow-on questions are based upon user responses to previous ques-

tions. If desired, the user may back up to a previous question.

The resulting draft document consists of user-generated responses and system-generated conditional text. The user-generated text comes from the narrative explanations and short answers input by the user. Text provided by DOCSHELL is based upon user responses to specific questions, selections from answer lists and results of decision logic internal to the system.

Consistency checks can also be embedded within the knowledge base to warn the user of inconsistencies between responses in different portions of a given document or possible inconsistencies between two different types of management documents for a given program or project. Responses which depart from accepted policy can also be flagged.

When revising requirements in a given section of a document, any impacts on other sections of that same document (e.g. acquisition strategy) or on other related document modules (e.g. Operational Requirements Document (ORD)) are brought to the attention of the user. This promotes integration within and between all management documents and the program elements for which the documents are being prepared. Help is available from anywhere within the system to provide guidance in responding to a particular question or to explain the available options. At the conclusion of the work session, the user can review the current document, distribute the document for review, print the document or prepare the document for import into a word processor.

Documentation Types

The types of management documentation which can be generated by DOCSHELL are virtually unlimited. The DOCSHELL has been used to assist in preparation of various types of documents required within the Army integrated logistics support (ILS) community. The DOCSHELL expert system, along with a knowledge base tailored for ILS, provides a comprehensive treatment of all the ILS elements and escorts users through the maze of ILS-related decision points which must be addressed during each phase of the acquisition life-cycle. Currently, the ILS application of DOCSHELL includes modules for generating ILS Strategies, ILS Statements of Work, Provisioning Plans, Transportability Reports, Materiel Fielding Plans, and Warranty Clauses.

Current Users

New modules of the DOCSHELL expert system are being developed to assist project managers in preparing acquisition planning documents for procurement of major end items. An Acquisition Strategy module is in beta testing. Currently under development are modules to assist in preparation of ORDs, Test and Evaluation Master Plans, and System MANPRINT Management Plans. Additional modules are also under consideration.

The key to the versatility of DOCSHELL is its component structure. DOCSHELL was designed for easy development, incorporation and sustainment of knowledge bases. Any number of document generating modules can be produced simply by incorporating an appropriately tailored knowledge base into the DOCSHELL.

A companion tool to DOCSHELL is the Knowledge Base Development Environment (KBDE). The KBDE provides a user-friendly, graphically-based means of creating, expanding and modifying knowledge bases. Also, a tailored knowledge base can be developed for virtually any type of management document and incorporated for use within the DOCSHELL expert system.

Conclusion

The DOCSHELL expert system is a powerful and flexible tool for authoring comprehensive planning documentation. In conjunction with well-constructed knowledge bases and decision logic, it has proven to be a dramatic productivity enhancer. The best measure of the utility of DOCSHELL is the growing base of users and the numerous testimonials by users who claim substantial time savings and increased quality in their planning efforts. DOCSHELL applications have also proven to be an excellent training tool in leading the novice in the footsteps of experts while ensuring compliance with the latest policy.

For more information, write to: USAMC LOGSA, ATTN: AMXLS-AIM, Bldg. 5307, Redstone Arsenal, AL 35898-7466; call commercial (205)955-9883/9884 or DSN 645-9883/9884; fax commercial (205)955-8551 or DSN 645-8551, or check the following Internet site: <http://www.logpars.army.mil>.

The best measure of the utility of DOCSHELL is the growing base of users and the numerous testimonials by users who claim substantial time savings and increased quality in their planning efforts.

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ACQUISITION STREAMLINING IN SUPPORT OF THE NUCLEAR, BIOLOGICAL, AND CHEMICAL RECONNAISSANCE SYSTEM

By Alvin D. Thornton

The Fox Nuclear, Biological, and Chemical Reconnaissance System is a successful example of acquisition streamlining through precise identification of system requirements for test optimization.

Introduction

The Fox Nuclear, Biological, and Chemical Reconnaissance System (NBCRS) is a successful example of acquisition streamlining through precise identification of system requirements for test optimization. Despite test challenges which would have impacted the program schedule by as much as two years, timely and innovative approaches to problem resolution have successfully supported the scheduled type classification standard decision for the NBCRS within the U.S. Army.

Methods were devised to maximize benefit from test dollars by clearly identifying test requirements, eliminating repetitive test efforts, and reducing the scope of other planned non-repetitive tests based on previous tests performed. Between November 1990 and June 1995, the NBCRS was deployed in support of the Gulf War two years ahead of schedule.

The XM93 completed production verification testing (PVT) and achieved new materiel release (NMR) to fulfill the Army's urgent need for an NBCRS. The XM93E1 completed production qualification testing (PQT), initial operational test and evaluation (IOT&E), and a first time operational Manpower and Personnel Integration (MANPRINT) validation (OMV) demonstration. The XM93E1 was type classified stan-

dard, as scheduled, in June 1995.

Background

The U.S. Army's nuclear, biological, chemical (NBC) mission area analysis identified a need for a reconnaissance system that provides commanders with timely and accurate NBC contamination information. A February 1988 Army decision and subsequent congressional language resulted in the redirection of an ongoing Army development program. The non-developmental item approach was pursued to fulfill the identified need consisting of the following phases: proposal and shoot-off phase, during which proposals were evaluated, a competition conducted, and a winner selected; interim system production (ISP) phase, which provided 48 contractor-supported interim systems identical to the evaluated shoot-off system selected with specific safety corrections; system improvement phase (SIP) to design, fabricate and test the NBCRS which will satisfy all the requirements in the required operational capability (ROC); Block-1 modification phase to produce the improved NBCRS for worldwide fielding by upgrading existing systems to SIP configuration, and; future block modification phases which will incorporate improved chemical and biological detectors.



The XM93 was tested in the Production Qualification Test.

Description

The XM93E1 Fox NBCRS is a dedicated system of NBC detection, warning, and sampling equipment integrated into a high-speed, high-mobility armored carrier capable of performing NBC reconnaissance on primary, secondary, or cross-country terrain throughout the battlefield. The XM93E1 was developed under the SIP program to upgrade the Fox ISP systems to meet all the requirements of the ROC, to provide organic maintenance, and reduce the crew size from four to three. The XM93E1 Fox NBCRS has the capability to detect chemical contamination within its immediate environment through point detection and, at a distance, through use of a standoff detector.

The XM93E1 Fox automatically integrates contamination data from sensors with input from on-board navigation and meteorological sensors and automatically transmits digital NBC messages via the maneuver control system.

Operation Desert Shield/Storm (ODS)

Beginning in August 1990 and ending in February 1991, the German government

donated 60 Fuchs NBCRSs in support of ODS. In the space of five months, the German-donated systems were Americanized and deployed in support of ODS. This provided an NBCRS capability in the war zone to both the U.S. Army (50 NBCRS) and U.S. Marine Corps (10 NBCRS) two years ahead of schedule. Subsequent to ODS, a Reliability, Availability, and Maintainability (RAM) Working Group was convened to review maintenance data, crew comments and score incidents for possible reduction in the scope of testing for the ISP/XM93.

Because of incomplete maintenance records, the lack of incident traceability during the Gulf War, and maintenance being performed by the contractor, the NBCRS RAM Working Group concluded that scope of the testing could not be reduced.

PVT For The XM93

The PVT was performed on six ISP systems from February 1992 through the January 1993 time frame. The primary thrust of the PVT was to furnish data to verify resolution of safety deficiencies disclosed during the shoot-off phase and field 48 ISP systems to meet the Army's urgent needs as delineated in the NBCRS test and

evaluation master plan.

Additionally, the PVT was used to verify adequacy of hardware fixes to address the issue on probability of detection as directed by Headquarters, Department of the Army (HQDA), and obtain data points on performance and RAM as delineated in the U.S. Army Materiel Systems Analysis Activity's (AMSAA) independent evaluation plan/test design plan (IEP/TDP). Because of test-peculiar anomalies affecting performance disclosed during RAM testing, the expanded scope of PVT, and availability of authenticated test data from the Federal Republic of Germany, the Office of the Deputy Under Secretary of the Army (Operations Research) (DUSA (OR)) directed development of a comprehensive technical and operational test strategy for the NBCRS.

Cooperative Efforts

As directed by the DUSA (OR), a first time totally integrated technical and operational test strategy for the SIP/XM93E1 program was developed. The test strategy was developed by the NBCRS Test Integration Working Group (TIWG) which is comprised of personnel from project management offices (PMO), AMSAA, the

U.S. Army Chemical School (CMLS), the U.S. Army Operational Evaluation Command (OEC), the U.S. Army Tank-automotive and Armaments Command, U.S. Army Test and Evaluation Command (TECOM), U.S. Army Test and Experimentation Command (TEXCOM), U.S. Army Research Laboratory (ARL), and developmental and support contractors of the PMO, HQDA, and the Office of the Secretary of Defense. The XM93E1 integrated test strategy consisted of four levels of data source matrices as follows:

- XM93E1 Data Requirements Matrix (DRM);
- XM93E1 Data Source Matrix 2nd Level (DSM-2);
- XM93E1 Data Source Matrix 1st Level (DSM-1); and
- XM93E1 Test Site Data Source Matrix (TSDSM)

The initial objectives of the matrices were to: eliminate redundant testing among the PQT and technical tests that have been completed; eliminate duplicative testing among PQT test sites; and eliminate duplicative/redundant testing between the PQT and the IOT&E through the interchange of acceptable data to support the respective evaluations. The ultimate objectives were to: provide progressive insight

into cost avoidance; and, through continuing refinement, reduce the cost and time required to execute the XM93E1 test program. The DRM was developed first, using the requirements of the basic contract and the ROC. Various program documents were used as required for amplification of the data. The requirements were numerically ordered in accordance with the contract. This numerical ordering of requirements was carried through to the DSM-2 and DSM-1.

The requirements in the DRM were condensed to the DSM-2 which incorporates: specific tests necessary to produce data to meet the requirements; and the program test phases in which the specific tests have either been conducted, or are planned to be conducted. The DSM-1 is a condensed version of the DSM-2 in that it provides categories of tests in place of the specific tests shown in DSM-2. A key facet of DSM-1 is that it indicates which data are to be obtained as a spin-off from other tests in the PQT. The TSDSM was the last matrix developed. It is comprised of the subtests to be conducted in the PQT and the IOT&E and the sites at which the subtests are to be conducted.

The order of the subtests follows the organization of the AMSAA IEP/TDP.

Reference numbers are included after the subtest titles to facilitate linking to the numerical ordering of the other matrices. Further, the TSDSM includes information on the interchange of acceptable data between the PQT and the IOT&E. The four matrices were initially based upon technical test data. Subsequently, the critical operational issues and criteria and measures of performance were added to the DRM and sequentially, as data elements to the DSM-2, DSM-1 and TSDSM. They are "living" documents. Revisions are made as test results are made available from previous tests, and as duplicative/redundant testing is identified by the NBCRS TIWG in the ongoing coordination process. The DSMs' trace any tracking system can be used to numeral subtest through the DSMs to determine specific test actions as well as the origin of the requirement in the DRM.

The NBCRS integrated test strategy was approved as directed by the Office of the DUSA(OR) by AMSAA, OEC and the PMO after TIWG coordination. Through the cooperative efforts of the NBCRS TIWG, the entire NBCRS test effort was reduced by approximately 25 percent.

Production Qualification Test

The PQT for the XM93E1 was developed and tailored in accordance with the previously approved NBCRS test strategy. RAM testing was minimized and structured to focus on the NBC suite as it was identified during the PVT as being the weak link in the system. The DSMs afforded clear identification of superfluous areas of testing for TIWG review and elimination or reduction as appropriate. The PQT for the XM93E1 NBCRS was performed on eight prototype systems tested at seven TECOM test sites.

Initial Operational Test And Evaluation

The IOT&E for the XM93E1 NBCRS was performed on six prototype systems and one float system tested by the TEXCOM at Fort Bliss, TX, for operational effectiveness and suitability. Operational effectiveness was assessed based on system performance, survivability and employment. Suitability was assessed based on system RAM, supportability, MANPRINT, and interoperability. The IOT&E was conducted March 21, 1994, through May 7, 1994. The draft Test and Evaluation Report was published August 1994. The XM93E1 was evaluated as NOT OPERATIONALLY SUITABLE based primarily upon the inability of the three-person crew to perform mission tasks to standard for the duration of the 96-hour operational tempo of the operational mode summary/mission profile (OMS/MP),



The XM93E1 was tested in the Production Qualification Test and the Initial Operational Test and Evaluation.

and secondarily upon the excessively high maintenance requirements of the system. The XM93E1 was evaluated as NOT EFFECTIVE, based primarily upon the system level probability of detection demonstrated during the IOT&E missions which were conducted in a manner consistent with those of the OMS/MP. The determination of NOT EFFECTIVE is reflective of the entire system as a sum of interactive components and not limited solely to the materiel component.

Corrective Action Plan And Detailed Corrective Action Matrix

The Corrective Action Plan (CAP) was initially developed as the XM93E1's top level get well plan based on the system shortcomings revealed during the PQT and IOT&E. Subsequently, the Detailed Corrective Action Matrix (DCAM) was developed to clearly show those program requirements not met. The DCAM was comprehensive to include the least through most significant requirements not met from both the PQT and IOT&E. All requirements in the DCAM were tracked from source of problem disclosure to correction for complete traceability. The DCAM highlighted problem areas requiring immediate attention and laid out the plans for resolution of other shortcomings of lesser program concern, risk, and impact. The XM93E1 DCAM was completely coordinated with and approved by the TIWG and serves as the TIWG contract with the PMO for proper time phased correction of problems.

Modeling

Based upon the results of the IOT&E, the XM93E1 program was directed by the Office of the DUSA (OR) to correct and demonstrate resolution of MANPRINT problems prior to the Milestone III in-process review scheduled for June 1, 1995. Hardware fixes to reduce workload were identified by the PMO and integration optimized by ARL using the MANNEQUIN model (a human figure model used by ARL for optimum design of crew compartment). The ARL reviewed tapes from the IOT&E and performed task time analysis to project workload reductions based on the hardware fixes. The manpower-based system evaluation module of hardware versus manpower (HARDMAN) III was used to support this effort. The TIWG designed a demonstration coined the "OMV" to demonstrate the fixes and provide data to validate the NBCRS HARDMAN III model predictions. HARDMAN III was used to focus the OMV on key mission perfor-

mance characteristics identified by the modeling effort and critical tasks identified by the CMLS and PMO.

OMV Demonstration

The OMV demonstration maximized use of existing available resources to demonstrate resolution of MANPRINT shortcomings disclosed during the IOT&E. Two XM93E1 IOT&E systems were used in the OMV. One system was of standard configuration from the IOT&E and one modified with the hardware changes designed after the IOT&E to reduce workload. The OMV test players were those used to support the IOT&E to provide an accurate indication of system improvement. Crew questionnaires were administered following each mission block/shift change to obtain this supporting qualitative data for evaluation purposes.

To mitigate crew effects, two 96-hour scenarios were conducted. Each crew performed a 96-hour scenario operating in the standard and modified XM93E1 systems. However, in each scenario the crew operating during the daylight or night hours continued to function under those conditions regardless of system variant (standard or modified) minimizing the crew effects of day versus night operations. Additionally, crew performance in the standard and modified XM93E1 was used for comparison. This was done to eliminate crew competition during the demonstration and track the same crew's performance between the standard and modified XM93E1 variants permitting equitable system assessment.

PVT For The M93A1

The PVT for the M93A1 will primarily consist of the planning and execution of those open issues identified in the DCAM. The PVT will be a first time totally combined technical and operational test.

Summary And Conclusion

Despite the impacts of ODS, PVT for the XM93 was initiated and completed as scheduled. Although information and data collected during ODS could not be used to reduce the scope of PVT for the XM93, maturation of the system with minor modifications (expedited safety confirmation testing and a mobile mass spectrometer electronic chip comparability test) permitted NMR two years ahead of schedule in support of ODS. The XM93, based on the plans for PQT of the XM93E1 as delineated in the approved NBCRS integrated test strategy, consummated NMR as scheduled. Without the DSMs' clear description of the XM93E1 test program and the plans to verify correction of XM93 shortcomings under

the XM93E1's PQT, the XM93 would not have achieved NMR without additional testing. The DSMs provided identification of areas of repetitive testing between the XM93 and XM93E1 programs.

Elimination of areas of repetitive tests and reduction in the scope of performance and RAM testing based on hardware consistency between the XM93 and XM93E1, NBCRS testing was optimized, thereby streamlining the overall program. The NBCRS DSMs are a first time totally integrated test strategy developed for a multi-phased expedited inter system production and development program. The MANPRINT model developed for the NBCRS should net a projected time and cost savings of one quarter to a third of the total operational test cost.

Additionally, the model will support MANPRINT analysis on any variant NBCRS vehicle. Accreditation of the model is available to support all future operational test and evaluation. Development and implementation of the XM93E1 DCAM permitted time-phased correction of problems revealed during PQT and IOT&E. The most significant problems were corrected and verified in the OMV. The OMV was a first time totally operational event executed in a technical environment. From conception through execution, to include availability of the abbreviated operational assessment, the OMV took a total of five months. Based on the results of the OMV, the XM93E1 has been reassessed suitable and with high potential of being effective. Because of the novel approach for the OMV on the part of the NBCRS TIWG, the XM93E1 program achieved cost avoidance in excess of \$2 million. Conduct of the OMV precluded impacting the program schedule by a minimum of 13 months. Additionally, the innovative use of MM1 calibration gas as the system challenge methodology in lieu of liquid chemical agent simulants avoided remediation costs and environmental restrictions. The XM93E1 was type classified acceptable for use by the Army as the M93A1 June 1995, as scheduled.

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STREAMLINING AN ARMY TELECOMMUNICATIONS ACQUISITION

By Robin A. Baldwin

The Federal Acquisition Streamlining Act (FASA) of 1994 and the Federal Acquisition Reform Act (FARA) of 1996 have substantially reformed how the Department of Defense (DOD) procures commercial-off-the-shelf (COTS) items. This article illustrates how the far-reaching reforms of FASA and FARA have positively impacted the formulation of the Digital Switched Systems Modernization Program (DSSMP) solicitation. The requirements to be fulfilled under the DSSMP acquisition are not military-unique. The DSSMP telecommunications requirements are commercial in nature and are very similar to the requirements of a telephone company, a university or a large corporation. FASA and FARA have enabled the U.S. Army Communications-Electronics Command to capitalize on the commercial nature of the acquisition and fully embrace acquisition streamlining.

The 1996 rewrite of DOD Directives 5000.1 and DOD 5000.2-R encourages DOD project managers to form integrated product teams (IPTs) of empowered subject matter experts to manage acquisitions. COL James McKan, Project Manager, Defense Communications and Army Switched Systems (DCASS), under whose purview the DSSMP acquisition falls, formed and empowered an IPT that is responsible for the development of the DSSMP acquisition. The DSSMP IPT developed a streamlined commercial acquisition strategy that will result in the award of two or more indefinite-delivery, indefinite-quantity (IDIQ) contracts. There is no upper limit to the number of contracts that will be awarded. The IDIQ contracts, once awarded, will allow all federal agencies worldwide to meet their telecommunication switching system modernization requirements over the next 10 years.

The commercial nature of the DSSMP acquisition has provided the IPT with many opportunities for streamlining. The IPT first eliminated over 1,000 pages of military specifications (MILSPEC) and replaced the MILSPEC requirements with 30 pages of performance specifications. MILSPEC requirements are not mandated because the telephone switching systems acquired under the DSSMP contracts are essentially the same telephone switching systems that are purchased by local telephone companies, colleges, universities and large businesses on the commercial market.

The IPT next set their sights on formulating DSSMP data item deliverable requirements. DSSMP, adopting commercial acquisition

practices, will not require the submission of any government-unique data. The government will rely on the DSSMP contractors to comply with their own commercial best practices when furnishing data to the government. Under previous switch modernization contracts, the government paid for contractors to provide data on everything from training course outlines to system test plans and test activities. Now the contractors will provide available commercial data to the government at no additional cost.

Historically, separate contracts have been awarded to one telecommunications provider, one site at a time, several sites grouped together, and up to 39 sites on one contract. The DSSMP final request for proposal will result in the award of two or more contracts. Once the DSSMP contracts are awarded, the government will have the opportunity to compete the delivery order requirements between the contractors who have been awarded IDIQ contracts. Delivery orders offered for competition will be awarded to the contractor presenting the best value solution to the government. Ongoing competition between contractors will be a constant throughout the life of the DSSMP contracts.

The DSSMP IPT, utilizing the technology of the World Wide Web (WWW), has begun to meet President Clinton's challenge to federal agencies to move aggressively toward a wide implementation of electronic commerce, as set forth in an Oct. 26, 1993, presidential memorandum. The DSSMP IPT Website is <http://www.monmouth.army.mil/isma/dcass/dssmpl/>. The DSSMP IPT released the following documents to industry via the WWW: draft request for proposal (RFP), list of pre-solicitation conference attendees, questions and answers relative to the draft RFP, pre-solicitation conference and the final RFP. All interested vendors have access, via the Web, to instructions on how to download information from the DSSMP Website, and the opportunity to send e-mail directly to the contracting officer.

The DSSMP IPT also extensively utilizes a local area network and an Internet gateway to communicate via electronic mail. The action officer electronically forwards all draft documents to IPT members for review and

comment. The IPT members send comments back to the action officer in real time. This virtual office via e-mail has enabled IPT members to continue to participate in the development of the DSSMP acquisition package while on temporary duty or extended training. I have personally participated in this process while a student at the Army Management Staff College in Virginia. Time is not lost waiting for acquisition information to pass through one functional stovepipe to another. All electronic communications take place in real time across subject matter areas.

Defense acquisition reinvention and changes in information technology have allowed the DSSMP IPT to convene, form a team, conduct a market survey, and issue a draft RFP—within three months. Once the draft RFP was issued, interested contractors became participants in the IPT process. Any significant changes made to the RFP were reviewed and commented on by participating contractors. The final DSSMP RFP has been released and multiple contracts were awarded in late June 1997.

The DSSMP IPT used acquisition reform and advances in information technology to reengineer an Army telecommunications acquisition. The IPT was empowered by the PM to make common sense business decisions to save the government and industry time and money. Government-unique data requirements have been deleted and unnecessary voluminous military specifications replaced by succinct performance specifications. Communication with industry during the solicitation process has taken place on-line and in real time. The DSSMP contracts will be awarded faster than the Army and industry thought possible. The government will follow best commercial practices for the DSSMP acquisition and will acquire telecommunications in a manner that is similar to that of the typical commercial telecommunications customer.

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ARMS AND FACILITY-USE CONTRACTING

Introduction

The National Defense Authorization Act for Fiscal Year 1993 provided congressional direction to the Secretary of the Army to implement the Armament Retooling and Manufacturing Support (ARMS) Initiative, known as the ARMS Act. The ARMS Act was passed to encourage the commercial use of idle government-owned, contractor-operated (GOCO) ammunition industrial facilities to reduce the cost of maintaining wartime capability and retaining the highest level of readiness practicable for Defense purposes.

Background

The Army's Ammunition Industrial Base (AIB) is comprised of GOCO and commercial facilities. After the collapse of communism, many of the GOCO facilities producing ammunition to support mobilization requirements were converted to an "inactive" status due to reduced production needs. But to maintain an adequate and viable AIB for emergency ammunition requirements, it was necessary to maintain the equipment, plant infrastructure, and a cadre of skills at these installations and at the remaining active production facilities. The problem centered on the fact that the AIB was specific to Defense needs with little commercial interdependence and almost no commercial markets. The alternative seemed to be to allow these valuable assets to deteriorate with declining ammunition budgets, and with no economic benefit to the government.

Without production to support the AIB, the Army had to find a new way to ensure the capability of these assets in the event of war. With responsibility for maintaining the AIB, the Industrial Operations Command (IOC) developed and implemented the Facility Use Contracting Initiative to accomplish this task. The initiative provides for the utilization of idle production capability and capacity within the Army's GOCO facilities through the commercial application of similar manufacturing processes. It enables the government to retain capabilities and critical skills required for ammunition production while reducing the costs of ownership and maintenance associated with the facilities. In addition, it helps to reduce the negative economic impact on the communities in which the GOCO facilities are located by encouraging and accommodating continued plant utilization.

The ARMS Act supports the facility use

By MAJ Tracy L. Wickham
and Kathryn A. Ortel

concept by providing economic incentives to operating contractors to commercial tenants to GOCO facilities. Benefits to the government include: a reduction in costs that lowers product costs for the remaining ammunition production, enhances the readiness posture, and increases employment opportunities for needed skilled workers. In addition, there is the practical use of idle buildings and equipment, and the continued viability of a larger segment of the AIB.

Partnering With Industry

The Army and industry partnered to jointly establish the ARMS Program. A major component of this partnering was the establishment of a public-private task force (PPTF) to make recommendations on the permanent structure and implementation of the ARMS initiative. The PPTF provides a forum for all interested parties to gather together and discuss the ARMS Program, and to provide recommendations for ongoing program development. An executive advisory committee (EAC) consisting of government, industry, tenant, community, and

labor union experts acts as the governing body for the quarterly PPTF sessions. The EAC identifies the issues to be forwarded to the Secretary of the Army for resolution and/or widespread application.

Facility Use Contract

A facility use contract is the essential element of the ARMS Program. To qualify for ARMS incentives, a facility use contract must be signed by the operating contractor at the GOCO facility. Currently, the IOC has 11 ammunition plants actively pursuing facility use contracting.

Strategic Plan

The facility use concept begins with the development of a strategic plan to determine the viability of commercial reuse at a GOCO facility. If determined viable, the contractor becomes the "real estate managers" through which all contact with prospective tenants takes place. Contractors are encouraged to operate and manage the plants using best business practices, but within specific guidelines imposed by the government. These guidelines are developed and incorporated into the facility use contract through detailed Scopes of Work for maintenance, property, security, fire, environmental, and safety. A facility use contractor can perform Defense and commercial production efforts as the operating contractor. They also perform maintenance or repairs for commercial tenants reducing the Army's maintenance and overhead costs, while maintaining employment, and preserving readiness.

The facility use contractor may also bring tenants to the plant to conduct commercial production efforts using the government's production line. The terms and conditions for these third-party efforts remain between the facility use contractor and the tenant. While this simplifies the Army's involvement, the facility use contractor must ensure that all terms and conditions set forth in the facility use contract are upheld. This approach benefits everyone involved. It places the responsibility for the entire facility with one contractor. It allows facility use contractors to negotiate usage rates and services with tenants based upon the marketplace. Small and minority-owned businesses benefit, as they can take advantage of the established infrastructure, reducing their up-front capital investment requirements. Communities, taxpayers, tenants, facility use contractors, labor

ARMS Financial Incentives

- Facility Strategic Planning Funds
- Facility Marketing Funds
- Building Alterations/Modifications
- Environmental Baseline
- Equipment Movement
- Engineering Feasibility Study Funds
- Equipment Consolidation
- Equipment Modifications
- Equipment Layaway
- Equipment Replacement
- Excess Equipment Sales
- Immediate Use Funding
- Performance Incentive
- Bridging Incentive
- Business Development Center
- Foreign Trade Zone Establishment
- Loan Guaranty Program

unions, and the Army all benefit from the successful establishment of facility use contracting.

The contracting plan for facility use contracting is different than the cost-plus contract used in the past for the operation of the GOCO facilities. The facility use contract is a no-cost document that, in addition to the detailed scopes of work, includes a list of equipment the contractor is responsible for, general-use provisions, and regulatory clauses. Requirements for the reactivation of the facilities in the event of a national emergency are specified and are the responsibility of the facility use contractor. In conjunction with the facility use contract, a basic ordering agreement is developed. This is the contractual instrument on which ARMS incentive funding and all other project costs are awarded. The delivery orders will be awarded on a firm fixed-price basis, putting greater risk on the facility use contractor.

In accordance with the National Performance Review, Army regulations and requirements have been greatly reduced within facility use contracts. A primary goal under facility use contracting is to require compliance with state, local, and federal laws and regulations (i.e., commercial standards) eliminating government-unique requirements. The goal is to have an efficient operation maximizing commercial reuse/Defense conversion efforts.

Tenant Occupancy

Under facility use contracting and the ARMS Program, all efforts needed for tenant occupancy are accomplished without profit for the contractor. Additionally, the traditional "rental" fee is not being obtained for use of government property. Rather, contracting officers, in accordance with regulatory guidance, are accepting other consideration in lieu of rent. No cash is ever received by the government. Instead, negotiations are conducted yearly to determine the cost of SOWs completed as "consideration" in lieu of cash "payments". The facility use contractor benefits from the amount of tenant revenue kept as profit for completing the SOWs. Additionally, negotiations include the percentage of the tenant revenue that the facility use contractor is to receive.

Prior to facility use contractors or tenants utilizing property at the GOCO facilities, the contractor submits a conceptual proposal which is staffed to dedicated matrix support personnel. The ARMS team's goal is to provide approval or disapproval of the concept to the facility use contractor within three days. If approved, the facility use contractor may proceed. However, the facility use contractor is responsible for all costs incurred until such time as a final cost is negotiated. Many times the tenant proposes to pay the costs themselves thereby negating this risk to the contractor. A conceptual approval may also set forth "conditions" which must

be met prior to initiating any work relating to the request. If the conceptual proposal is disapproved, facility use contractors are notified accordingly, and provided rationale regarding the unsuitability of the proposal.

This process represents how the government retains control of the facilities, their use, and the items or products manufactured or services provided. To ensure sufficient information is available on which to base a decision, a standard request format was developed—the "Facility Use/ARMS Mandatory Checklist." If ARMS incentive funding is needed and the concept is approved, the facility use contractor submits a technical proposal containing detailed cost data necessary for negotiations. Competitive bids, or cost and pricing data, are provided to enable the contracting officer to determine a fair and reasonable cost. Upon agreement, the facility use contractor and the government execute a delivery order.

Facility use contractors are also provided incentives to seek additional commercial work. Each time commercial work is brought onsite, the plant's fixed expenses are shared over the larger cost base, increasing the facility use contractor's profitability. Because facility use contractors operate under a fixed price arrangement and must obtain work through the competitive marketplace, they must control costs to maintain their competitiveness. This continues to reduce the Army's share of the fixed expenses, while increasing the amount of space and equipment for which the contractor is responsible for maintaining.

Conclusion

Facility use contracting works! In less than three years, ARMS has reduced the Army's costs associated with maintaining the capability at the GOCO facilities by \$26 million, and there are projected annual cost savings of \$24 million. Two GOCO plants now operate at no cost to the taxpayer, and another four facilities are projected to be cost-free within the next few years. Jobs have been saved, employment levels have increased, facilities and equipment are being maintained at a higher level, Defense readiness has been enhanced, critical skills have been retained, and ammunition production costs have been reduced. Communities are benefiting from the establishment of sustainable economic opportunities, contractors are challenged to improve business operations at the facilities, new partnerships are established, and the Army's replenishment and emergency planning missions (for the Army, Navy, Air Force, and Marine Corps) are being retained to the maximum extent practicable.

Ideally, the goal of the ARMS Program is to reduce product and operational costs at active facilities, and to have inactive GOCO plants at zero cost. This includes the performance of environmental remediation projects in addition to routine requirements for maintenance, safety, security, and fire

protection. Previously, these facilities were viewed as a costly Defense burden. Under facility use contracting and the ARMS Program, these facilities have been turned into revenue-generating assets which will not only pay for their maintenance, but substantially reduce the future costs of maintaining replenishment capability and contribute to the clean up of the environment.

Additional information on the ARMS Program can be found by contacting the ARMS Team at DSN 793-6090 or the National Marketing Website at <http://www.openterprise.com>.

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Charles Visits Acquisition Workforce

Keith Charles, Deputy Director, Acquisition Career Management continues to conduct Acquisition Workforce Update briefings. Since press time of the last issue of *Army RD&A*, Charles has visited Huntsville, AL; Warren, MI; Fort Myer, VA; and Edgewood, Aberdeen and Fort Detrick, MD, to present the briefing, "Building Acquisition Leaders for the 21st Century," to hundreds of acquisition personnel. He also presented charters to the following Acquisition Career Management Advocates: Dr. Richard G. Rhoades (Missile Command and PM, UAV), Bill R. Bentley (Office, PEO, Tactical Missiles), Maxine Maples (Office, PEO, Air and Missile Defense), Carolyn Thompson (Space and Strategic Defense Command), Phyllis Kitchens (Test and Evaluation Command), Diana Frederick (Office, Program Manager, Chemical Demilitarization), and Robert Moeller (Chemical/Biological Defense Command). The Acquisition Corps exhibit, "We Are The People Who Develop The Systems," which highlights the people of the Army acquisition workforce, was displayed at many of these visits. Check the home page "DACM On The Move" section to find out where Charles will offer upcoming briefings!

Results of '96 Civilian Workforce Survey Upcoming Survey To Focus On Communication

Last year, more than 1,700 acquisition professionals participated in the first Civilian Acquisition Workforce Survey. The Acquisition Career Management Office (ACMO) sent the survey to more than 15,000 acquisition professionals at selected commands to assess the effectiveness of efforts to communicate career management initiatives and to get a "snapshot" of your attitudes about career development. The survey results indicate that a majority believes that the Army Acquisition Corps (AAC) vision to create "A Small Premier Professional Corps of Acquisition Leaders Willing to Serve Where Needed and Committed to Developing, Integrating, Acquiring and Fielding Systems Critical to Decisive Victory...for the 21st Century" is realistic and achievable.

ACMO Programs

The survey confirmed what we all knew—while progress has been made, there is room for improvement in addressing the communication needs of the civilian AAW and AAC. ACMO has implemented a variety of initiatives that address communication concerns raised in the survey results. We are conducting a communication outreach program, which focuses on improving two-way communication. The program is designed to ensure that you and your command are more aware of ACMO initiatives, and that the AAC's major contribution to Army programs is recognized. It should also provide a vehicle for feedback from the AAW.

Acquisition Career Management Advocates (ACMAs) and Acquisition Workforce Specialists (AWSs) are now in place and are responsible for providing you with timely information about training and education opportunities, requirements, and related efforts. We encourage you to consult these acquisition professionals for information. We've embarked on a series of visits to the field with Keith Charles, Deputy Director of Acquisition Career Management, to provide you with updates on Acquisition Career Management, and to offer you the opportunity to ask questions and give us feedback. Charles has been accompanied by representatives from the Acquisition Career Management Office and our latest AAC Display, "We Are The People

The Acquisition Career Management Office hasn't taken a summer break! We've been busily evaluating initiatives such as expanding the Corps Eligible (CE) and Competitive Development Group (CDG) Programs to include GS-12s, and an extension of the Training With Industry Program for civilians. We continue to accompany Keith Charles, Deputy Director, Acquisition Career Management, on his updates to the acquisition workforce. A short summary of Charles' previous acquisition workforce update visits can be found on this page. Be sure to look for Charles' latest schedule of briefings to the acquisition workforce on our AAC homepage news section under "DDACM on the Move."

The inaugural year of the Competitive Development Group Program is in full swing. Selectees have already taken their assignments and have begun training. I encourage all of you to read the article on CDGs on page 21 in this issue for an overview of CDG Year Group 1997. Be on the lookout for the announcements for CDG Year Group 1998 and the Corps Eligible Program for GS-12s. Many of you have asked for results from last fall's acquisition workforce survey. Be sure to read the article on the survey results in this section. A new survey, to be distributed this fall, is designed to find out what is working, and what is not, in our communication efforts! Hopefully, you'll hear about these and other career management opportunities from your ACMA, AWSS, or the AAC homepage.

You are encouraged to read LTC Don Burnett's article on the new Officer Personnel Management System XXI (OPMS XXI) which begins on page 6. Under this system, all ACC officers will be in the Operational Support Career Field. One of the exciting features of OPMS XXI is the functional integrator positions. For AAC officers, these can be positions in force modernization, contingency contracting, simulations, or systems automation engineering that will expose us to the operational side of the Army, while allowing us to work at the interface between the acquisition process and the warfighter.

Congratulations to all AAC officers selected for promotion to major and lieutenant colonel! Your selection is a clear indication of the Army's confidence in your overall professional competence and potential for outstanding service. These lists appear on pages 48 through 50.

The sizing of year groups 79 and 80 was completed by PERSCOM in July 1997 with the second rebranching board. A total of 43 officers were selected to return to their basic branches. While this has been a very difficult process, we have now aligned our officer inventories with requirements in most year groups. Moreover, this completes our managed restructuring to a requirements-based Corps of 2,000 officers by the year 2000.

As always, feel free to call our office with any questions you have regarding acquisition career management!

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Who Develop The Systems." This interactive exhibit was created to address the most common concerns in the workforce, and includes photos of hundreds of acquisition professionals from many locations. We hope that you've taken the time to read the literature which has been made available during these visits. The AAC home page provides you with information crucial and beneficial to your career development. The page can be accessed at <http://dacm.sarda.army.mil>.

Specific highlights from the survey include:

- **Attitudes Towards Management.** You indicated that training and education programs, both in terms of communication and conduct of those programs, are a success. Seventy-three percent felt that the Army views education, training and career development as part of its mission. Nearly 80 percent felt a mentor program or having access to a knowledgeable senior member of your organization to help in career development would be useful.

Twenty-one percent were concerned that commands do not view Army Acquisition Corps (AAC) membership as a successful acquisition career prerequisite. Almost a third felt that commands do not keep individuals informed of new AAC initiatives and that information about career development requirements and opportunities is not readily available through the Civilian Army Acquisition Career Management structure.

- **Attitudes About Training and Career Development.** Responses indicated that you either already are a member of the AAC (41 percent) or are interested in becoming a member (42 percent). Most of you (68 percent) indicated that you understand your role and responsibility in your career development. An overwhelming majority (79 percent) expressed the desire to have training available to you at your commands.

Responses to questions indicated that there are many areas where ACMO could improve communication efforts concerning training and career development. Nearly half of you (43 percent) indicated that you did not understand training and educational requirements, and 41 percent said you did not understand field certification levels. The need to more clearly convey the benefits of AAC membership is evident. Less than half of you (47 percent) felt that being a member of the Army Acquisition Workforce (AAW) or AAC is beneficial to your eligibility for promotion, and only 39 percent felt that AAC membership has positive career impacts. Forty-four percent of you would not be willing to relocate to further your career in acquisition, indicating that the mobility requirement continues to be an issue for the acquisition workforce. Only 34 percent felt that acquisition education and training opportunities currently available are adequate for career development.

- **Attitudes Toward Communication.** Your responses show that as the grade level of employees increased, so did their awareness of career development initiatives and opportunities. A significant number of respondents (37 percent) felt that acquisition career management information from the Department of the Army is not clear and understandable and even more (44 percent) felt that information necessary to effectively plan careers is not readily accessible. Forty-six percent felt that communication avenues with superiors are sufficient, while 30 percent disagreed. Fifty-nine percent indicated a desire for an open forum on career management issues with Army leadership.

E-mail was the leading method of obtaining Army-related information. "Word of mouth" was the second most common method, just ahead of organizational newspapers, memos from headquarters, the *Army RD&A* and *Defense News*.

ACMO Goals

The ACMO hopes to increase the use of our home page, which is the most comprehensive source of information for the AAW. Since e-mail is so widely used, we want you to be sure to subscribe to be notified by e-mail when the home page "News" section is updated! See the announcement in this issue to find out how to subscribe. We realize

that communicating with 30,000 professionals is a daunting task, but we are committed to success!

- **Follow-up Survey.** Be on the lookout for the second Civilian Army Acquisition Workforce Survey, which will be conducted in the fall of 1997 and include the entire Civilian Army Acquisition Workforce. This survey focuses on communication—we need to know what works, and what doesn't, in our communication efforts to reach you! We are counting on your feedback so that we can better communicate with you and provide you with the best opportunities for a successful career in acquisition. When you receive the survey, please spend a few minutes to respond to the questions, especially the open-ended questions. Results of the survey will be made available on the AAC home page and published in *Army RD&A*.

ANNOUNCEMENT!

SUBSCRIBE TO BE NOTIFIED BY E-MAIL WHEN NEW INFORMATION IS POSTED TO THE AAC HOME PAGE!

It's easy! Just access the home page at <http://dacm.sarda.army.mil> and click on "News." Then click on "Subscribe to be notified." Then fill out your name, e-mail address, and phone number.

Don't Miss Out On All The Good News!

FY 97 LTC Promotion Board Results

The FY 97 LTC Promotion Board results were released on Aug. 14, 1997. The Army Acquisition Corps (AAC) was above the Army average for promotion to the rank of lieutenant colonel. This is good news for the AAC population who experienced their first year below the Army average last year. The higher than expected promotion rate had to be attributed to the strength of Year Group (YG) 81's files.

Particularly noteworthy, five officers were selected below the zone for promotion from YG 83. Each of those officers were also selected below the zone to major.

Overall AAC Results

Board members reviewed the files of 179 AAC officers in the primary zone. From this population, 112 were selected for promotion by the board. In addition, five below the zone officers and one above the zone officer were selected for promotion for a total selection of 118 officers for promotion. The resulting primary zone selection rate of 62.5 percent was above the Army Competitive Category primary zone of 59.9 percent. Acquisition Corps results by functional area are as follows:

Functional Area	Primary Zone Considered	Primary Zone Selected	Primary Zone Percent
51	108	66	61.1%
97	34	21	61.8%
53	31	20	64.5%

What Was The Trend For Those Selected?

After the assignment officers re-reviewed the files of all AAC officers who went before the promotion board the following trend was validated:

**LTC = Command and Staff College Complete
+ Above Center of Mass (ACOM) Command
+ ACOM file**

It was alarming to note that 8.1 percent of YG 81 did not complete Command and Staff College (CSC) (either resident or non-resident). There were no officers selected for promotion who did not finish CSC. In the population of the AAC officers selected for promotion, 18.7 percent were non-resident graduates. There were 63 non-resident CSC graduates in the primary zone of consideration for lieutenant colonel. Of those officers, 20 were selected for lieutenant colonel. Restated, 31.75 percent of the officers who completed non-resident CSC were selected for lieutenant colonel. We can not emphasize enough the importance of finishing CSC. Of the 101 officers who attended a resident CSC, 86.1 percent were selected for promotion. If selected to attend a resident CSC, go!

Company command was also extremely important. Board members appear to use command reports as the mark of leadership potential. Success as a company commander is easily interpreted by the 18 board members (17 of whom are basic branch officers). ACOM command reports were an important factor in the selection process to lieutenant colonel.

The other important factor revolved around overall file quality. An ACOM file with increased emphasis on more recent OERs, were important to the board members selection methodology. Board members want to know how the officers performed as majors and, more importantly, what the senior rater thought of those officers' potential for future success. Senior raters who best articulated the promotion, military school and battalion/LTC command-level potential of successful officers, helped those officers.

The AAC did very well on this promotion board. The message from the board continues to be clear—seek the hard jobs and maintain a high level of performance.

LTC Promotion Selectees

ABERCROMBIE HENRY E
ABSALONSON STEPHEN C
ACHS JACK H
BATTON KATHLEEN M
BEERY MICHAEL D
BERGQUIST CRAIG A
BLUE JAMES R
BOOTH ANN L
BOUIE GEORGIA H
BROUSE STEVEN M
BROWNING KATHLEEN F
BROWNING MAITLAND M
BUCKNER EUGENE R
BUMGARDNER RONALD L
CAREY PHILIP J
CARLSON KATHRYN H
CARSON PEGGY R
CARTER WILLIAM C
COLON ANGEL L
COUTTEAU CHARLES G
DALIO THOMAS P
DELANEY MICHAEL J
DIXON TIMOTHY D
DOWLING JON N
DRIESSNACK CHARLES H
EBERLE NATHAN R
ECONOMY ANAS T
FAGAN MATTHEW B
FIERKO FRANCIS X
FLEMING MICHAEL B
FORTANBARY MICHAEL W

FOUNTAIN HARRISON D
FRY CHRISTOPHER C
GAMMONS ALFRED W
GASSMAN THAD A
GILLEY PAUL D
GILMAN JEROME P
GREENE WARREN O
GROVE MICHAEL J
GRUBB SUSAN K
GUILMETTE DANIEL J
GWILLIAM BRUCE L
HANSEN RICHARD D
HARRIS EARNEST D
HARRISON THEODORE C
HARVILL JAMES T
HEALY EDWARD A
INCORVATI ANTHONY R
JONES KERMIT C
JONES WINSTON M
KENDRICK CARLA D
KENDRICK ROBERT
KING MARYSE J
KLEIN DALE E
KLIMA BRIAN L
KOUFAS THEODORE W
KWAN HON C
LAMBKIN DOUGLAS D
LITAVEC DOUGLAS J
LOPER CHARLENE M
LOSCUDO DANIEL T
MACIAS HEATHER J

MADDUX JONATHAN A
MAHANNA CORY W
MARR PATRICK M
MCCABE CURTIS L
MCGUIRE PAUL A
MCMANNES LESTER T
MEDLER LAWRENCE P
MITCHELL RALPH L
MONTFORD LEONARD R
MOORE STEVEN R
MOORE STEVEN W
MOSHIER TIMOTHY F
NEUMANN SUSAN B
NEWTON ROBERT A
NICHOLS CAMILLE M
PINTER STEVEN S
RAGSDALE DANIEL J
RALPH JAMES R
RAMOS ENRIQUE
RAYMOND WALTER R
RAYNOR CLEON W
REA RICKY J
RECK KEITH F
RIDER MARK D
ROCHE JOHN M
RUNYON CARL

SALYER RONALD F
SANGIORGIO DONNA J
SCARBROUGH JESS A
SEARS GEORGE A
SISK JOHN M
SLAGLE GEORGE P
STEVENSON WILLIAM W
STOLESON MICHELLE D
SULLIVAN CHRISTOPHER C
SURMACZ EUGENE S
SUTTON BRIAN
SVISCO THOMAS
THIEL JOHN S
TIDD JOHN P
TILLMAN MARTIN R
TOUSLEY BRADFORD C
TRONTI LYN O
ULSH GREGORY J
VAUGHN JOHN K
WALTER ROBERT C
WALTERS STEPHEN
WEDMARK KEVIN A
WILSON LANCE L
WOLFE DANIEL G
YARBOROUGH MICHELLE F

FY 97 Major Promotion Board Results

The fiscal year 1997 Major Promotion Board results were released Aug. 14, 1997. The Army Acquisition Corps (AAC) select rate was slightly above the Army average for promotion to major. The purpose of this article is to analyze the results of the Major's Board.

Overall Acquisition Corps Results

Board members reviewed the files of 144 AAC officers in the primary zone. From this population, 109 were selected by the board. The resulting primary zone selection rate of 75.6 percent was above the Army competitive category primary zone of 74.2 percent. In addition, four officers below the zone were selected for promotion for a total of 113 officers. Board results show AAC officers continue to be competitive with basic branch officers. Acquisition Corps results by functional area are as follows:

Functional Area	Primary Zone Considered	Primary Zone Selected	Primary Zone Percent
51	83	64	77.1
53	27	20	74.1
97	34	25	73.5

What Was The Trend For Those Selected?

After the assignment officers re-reviewed the files of all AAC officers considered for promotion to major, the following trend or "formula" emerged:

**MAJ = Above Center of Mass (ACOM) Command
+ COM
(+) File (Overall)**

Selection to major is a reflection of how an officer performed in his or her basic branch assignments. Most AAC officers have few, if any, officer evaluation reports (OERs) from acquisition assignments when they are considered by the Major's Board. Many officers are still completing basic branch assignments, reserve officer training corps/recruiting or AC/RC assignments, or are attending advanced civil schooling. Thus, the AAC officers are judged against the same criteria as basic branch officers.

The Army is more competitive now than ever before. The differences between the files of YG86 (officers in last year's primary

zone) and YG87 (officers in this year's primary zone) were readily apparent in the upward trend in OER ratings. All OERs became critical in determining the overall trend in performance and evaluation potential.

The most important discriminator continues to be company command OERs. Board members appear to use command reports as the measure of an officer's ability to succeed as a major. With a majority of the officers receiving one block command OERs, the words written by the senior rater played a bigger role in determining if an OER was truly top block. Due to many top block heavy senior rater profiles, board members were often required to determine if a top block OER was above center of mass or at center of mass. Some senior rater narratives that quantified an officer's performance when the profile did not, sent a clearer picture to the board on the "true" block check (i.e., best officer in a command, top one percent, one out of 10). Additionally, senior rater narratives that focused on the potential of the officer were more critical in determining a true top block command OER than OERs that focused on how the officer performed the job. Officers with above center of mass files or center of mass files and 2 block center of mass command OERs were not selected for promotion. Officers with center of mass files and top block center of mass command OERs were at risk for promotion.

This was an extremely tough board and the Acquisition Corps will lose some good officers. Performance in basic branch assignments, especially company command, appeared to be the board's focus. The message is clear—seek company command, do well and maintain a high level of performance on all other assignments.

MAJ Promotion Selectees

ALVARENGA CHARLOTTE D
AMBROSE MATTHEW H
AMSLER DUANE E
ANDERSON THOMAS J
BALLEW MARK E
BANDY LEIGH M
BANKS DOUGLAS T
BOCHONOK JEFFREY T
BORUFF WILLIAM M
BOSSE SCOTT P
BOSWORTH BRIAN E
BROCK DAVID M
BRUNER SCOTT F
CHYMA TIMOTHY D
COLBOURNE ALFONSO
COLE WILLIAM E
COOK THOMAS S
COPELAND KENNETH D
CRUM DAVID B
CUMMINGS BRIAN P
CURETON DARRYL G
DANIELS DEBRA D
DAUS CLIFF A
DAVIS CHRISTOPHER P
DAVIS JAMES V
DIMARCO ANDREW J
DOWNS JIMMY E
EVENSEN KENNETH C
FLETCHER ROBERT E
FOSTER STEPHANIE L
FOX CHRISTINE A
FRIEDLAND JEANNETTE J
FRULLA KURT A
FULLER WILLIAM S
GARCIA JOSEPH G

GOLDFISH TIMOTHY P
GREIN ALFRED J
GRIFFIN GENE E
GUTHRIDGE GEORGE A
HALLINAN JAMES G
HARPER VICTOR R
HENDREN JEFFREY L
HERRMANN COLLEEN J
HICKS MARK A
HIGGINS MICHAEL C
HILL PAUL M
HIRSCHMAN KEITH A
HOTALING SEAN
HUBNER MICHAEL W
JACKSON MARK M
JARRETT ROBERT R
JENE BERNARD L
JIMENEZ RAMON
JOHNSTON ROBERT J
JONES DEISY
KELEHER MICHAEL J
KING JOHN S
KIVETT RYAN B
KOTOUCH GARY J
LAASE GARY L
LANE EDWARD J
LEMONDES JOHN
MACDONALD ANDREW J
MARION ROBERT L
MCVEY WADE L
MILLER GEORGE B
MITCHELL JAMES C
MOBLEY DONALD R
MOLES TONY L
MOORE AARON D

MURFF RUTH A
MUSCHEK RICHARD C
NIGHTINGALE MALCOM E
NIKITUK MARKO J
OLEKSIK MARK
PACE PHILIP F
PARRISH SAMUEL G
PERSHING DAVID R
PINCOSKI MARK J
POPE JOSEPH K
POWERS TIMOTHY W
PULFORD SCOTT A
PUTHOFF FREDERICK A
RAFFERTY BRIAN W
RANKIN JAMES A
REED STEPHEN S
RETTIE CRAIG L
RIGGINS DAVID W
RILEY DONALD D
ROBERTSON DANIEL S
ROHALL DAVID J
RUSIN DANIEL S

SCHAEFER CRAIG P
SCHOOLCRAFT DAVID E
SCHUTTER JEFFREY D
SCHWARTZ THOMAS L
SEACORD CHRISTOPHER R
SLADE WILLIAM C
SMYTHE DANIEL R
SPENARD ARTHUR E
TAYLOR JOSEPH M
THEODOSS MICHAEL D
THIES DENNIS
THOMAS ERIC
TURNER KEVEN
URQUHART DARLENE M
VISCONTI ALBERT J
VOIGT JEFFREY R
WELLBORN ROBERT M
WESTERGREN BRAD L
WILLIAMS JULIAN R
WINBUSH JAMES O
WOMACK JOHN S

Acquisition Training And Education Now Incorporated In The Command And General Staff Officer's Course

As the result of an initiative started by LTG Ronald V. Hite (now retired) during his tenure as the Director, Army Acquisition Corps, officers attending the resident U.S. Army Command and General Officer's Course (CGSOC) now have the opportunity to complete Defense Acquisition Workforce Improvement Act (DAWIA) training and an acquisition-related master's degree while at Fort Leavenworth. The program will improve the education and training readiness of Acquisition Corps officers and concurrently reduce the associated costs. In the first year of the program alone, more than \$280K of travel costs were avoided and seven man years of time saved. Future annual savings are expected to be substantially greater.

This program resulted from the collaborative efforts of the Office of the Assistant Secretary of the Army (Research, Development and Acquisition) (OSARDA), the Command and General Staff College (CGSC), and the Defense Acquisition University (DAU). In October 1995, LTG Hite recommended that a program be developed at Fort Leavenworth incorporating both DAWIA training and a master's degree program. In December 1995, a formal program concept was approved. During the next 12 months, a small, dedicated team of individuals at CGSC, DAU Headquarters, SARDA, the Army Logistics Management College (ALMC), and the Air Force Institute of Technology (AFIT), worked to flush out the details of the program, both academically and logistically. These efforts resulted in formal agreements between SARDA, DAU and CGSC to implement the program. In January 1997, DAWIA qualifying instruction began being offered as part of the CGSOC curriculum.

An Acquisition Corps Area of Concentration (AC AOC) is now included as part of the Advanced Applications Program and elective curriculum in resident CGSOC. The objective of the AC AOC is to provide officers the opportunity to satisfy

DAWIA training requirements up to Level II in both a primary and secondary acquisition specialty (Functional Areas 51, 53, 97) within the 10-month CGSOC and a four- to five-week period of DAU on-site training immediately following graduation.

DAU-equivalent courses taught in CGSOC must be formally reviewed by the sponsoring DAU consortium member (i.e. ALMC, AFIT, etc.) and certified by the President of DAU as meeting all the objectives and standards of the sponsor institution. This certification must be reviewed on an annual basis. In addition, CGSC faculty members teaching in these courses must have comparable credentials as their counterparts in the sponsor institution. DAU also provides ongoing technical and educational assistance to CGSC in maintaining the quality and currency of the courses.

In the first year of the program, courses equivalent to Contracting Fundamentals (CON 101) and Contract Pricing (CON 104) were included in the AC AOC. For Academic Year 97-98, the AC AOC will include CON 101, CON 104, and three new offerings: Basic Information Systems Acquisition (IRM 101, via CD-ROM), Intermediate Systems Acquisition (ACQ 201), and Contract Law (CON 201). Immediately following CGSOC graduation for Academic Year 97-98, DAU will present three on-site offerings at Fort Leavenworth: Intermediate Information Systems Acquisition (IRM 201), Intermediate Contract Pricing (CON 231), and Intermediate Contracting (CON 202). For Academic Year 98-99, IRM 201 will be incorporated into the CGSOC AC AOC curriculum.

Another new program at CGSC is the Acquisition Graduate Degree Program (AGDP). This program will allow selected officers to complete both CGSOC and an acquisition-related master's degree, completely at Fort Leavenworth, within an 18-month period. A pilot test of the AGDP has been approved for CGSOC Class of 97-98 with the first group of AGDP students scheduled to graduate in December 1998. The program will be similar to the cooperative degree programs currently taught at ALMC. A significant difference is that the AGDP will be a fully-funded program with all tuition, books and fees paid by the Army. The degree-granting college or university will be selected competitively for the AGDP. A source selection is in progress and a contract award is anticipated in early fall.

Students in the AGDP will not be required to take any AGDP classes in CGSOC Term I (August-December). Term I focuses intensely on Division and Corps tactical operations and logistics and is historically the most demanding portion of CGSOC. During Terms II and III (January-May), AGDP students will take two or three graduate AGDP courses in addition to their other CGSOC classes. Following CGSOC graduation in early June, students will attend AGDP full-time through mid-December, at which time they will graduate with a master's of science (M.S.) degree in acquisition management. The M.S. in acquisition management will consist of 30-36 semester hours; of this, six to 12 semester hours are transfer credit from the CGSOC curriculum, six to nine semester hours are from courses taken during Terms II and III, and 18-21 semester hours are earned during the period of full-time study.

The first-year pilot AGDP will be limited to 15 students. In future years, it is planned that up to 30 officers per year will earn master's degrees through the AGDP. This program will also save the Army both time and money. The expense of a separate permanent change of station (PCS) move for full-time study in a graduate degree program is avoided. In addition, piggy-backing the AGDP on CGSOC results in a net timeframe for the degree of six to seven months, saving a full year of an

officer's time when compared to the average 19-month tour length for comparable full-time degree programs.

In summary, the AC AOC and AGDP programs have added significant new education and training opportunities for officers attending CGSOC. Concurrently, these new programs have leveraged the individual officer's time, resulting in substantial TDY and PCS cost savings, as well as a cadre of field grade officers better prepared for the challenging positions which follow CGSOC.

The preceding article was written by LTC Steve Boshears, Director, Acquisition Area of Concentration, CGSC, and LTC Vicki Diego-Allard, currently Executive Officer to the Director, Army Acquisition Corps, and formerly the action officer responsible for the AC AOC and AGDP and the FA 97 Proponency Officer.

ACQUISITION CIVILIAN RECORD BRIEFS IMPORTANT NOTICE

Acquisition Civilian Record Briefs (ACRB) for the acquisition workforce are being sent to employees' homes during their birth months for review and update. If you have contact with folks in the field and they know that they have a different address than that which may be in the database, please ask them to send an updated home mailing address to: ACRB@radford-emh1.army.mil. A home mailing address is preferred to ensure the likelihood of receipt, but a business address is permissible.

DO YOU HAVE A RECORD?

Last May 1997, the Army Deputy Director for Acquisition Career Management began sending Acquisition Civilian Records Briefs (ACRB) to all Army acquisition workforce personnel based on their birth month. Attached to the ACRB was a request to review, revise if necessary, and return it with your signature.

If you have received your ACRB, please complete it and return it immediately. If your birth month has passed and you have not received an ACRB, please call 1-800-808-6467.

The ACRB is an important document which is used for many key functions, such as:

- Selection for programs such as the Competitive Development Group;
- Selection for board-selected positions (project and product managers);
- Acceptance to the Army Acquisition Corps;
- Consideration for acceptance into the Corps Eligible program;
- Acquisition certification at levels 1 through 3;
- Communication with the work force;
- The ACRB provides managers at all levels a snapshot of your acquisition career status and is an integral part of your Individual Development Plan (IDP).

New Arrivals At PERSCOM'S Military Acquisition Management Branch

The Military Acquisition Management Branch (MAMB) recently welcomed two new officers to the U.S. Total Army Personnel Command (PERSCOM). MAJ Dwayne Green has replaced MAJ John Tidd as the Functional Areas 97 and 53 LTC Assignment Officer. MAJ Steve Leisenring has replaced MAJ Kathryn Westbrook as the Functional Areas 97 and 53 Majors Assignment Officer.

MAJ Green comes to PERSCOM from the Office of the Project Manager, Strategic and Theater Command and Control Systems at Fort Belvoir, VA, where he served as

Assistant Product Manager for Combat Service Support Control System.

MAJ Leisenring comes to PERSCOM from Command and General Staff College.

With dissolution of the Colonel's Division in Officer Personnel Management Directorate, Army Acquisition Corps (AAC) colonels are not managed in MAMB. The new Colonels Assignment Officer is LTC Carlton Gayles, who replaced LTC Mark Vaughn in May. LTC Gayles was formerly the AAC Distribution Manager in MAMB.



Electronic Mail/ Telephone Numbers



	<u>Name</u>	<u>USERID</u>	<u>Phone Number</u>
Chief, MAMB	LTC(P) Ron Flom	FLOMR	221-3131
AAC Colonels Assignments	LTC Carlton Gayles	GAYLESC	221-3090
Distribution Manager	MAJ John Tidd	TIDDJ	221-9383
LTC FA51 Assignments	MAJ Nick Guerra	GUERRAN	221-3129
LTC FA53, 97 Assignments	MAJ Dwayne Green	GREEND0	221-3124
MAJ FA51 Assignments	MAJ Jake Hansen	HANSENJ	221-3128
MAJ FA53, 97 Assignments	MAJ Stephen Leisenring	LEISENRS	221-5479
CPT FA51, Assignments	CPT Bob Marion	MARIONR	221-2800
CPT FA53, 97 Assignments	CPT Ruthann Murff	MURFFR	221-1474
Certification Manager	Ms Mimi Janes	JANESM	221-3130
Advanced Civil Schooling	Ms Paula Bettes	BETTESP	221-2760
Boards/Schools Manager	Mr Rick Yager	YAGERR	221-3127
AAC Auto. Information Line			221-3411
FAX			221-8111
Commercial			(703) 325-XXXX

(USERID)@HOFFMAN-EMH1.ARMY.MIL

Campbell Becomes Army DISC⁴

LTG William H. Campbell, former Program Executive Officer, Command, Control and Communications Systems, Fort Monmouth, NJ, has assumed new duties as Army Director of Information Systems for Command, Control, Communications and Computers (DISC⁴).

A veteran of more than 34 years of active military service, Campbell had served as a Program Executive Officer for nine years. His assignments include tours as Deputy for Program Assessment and International Cooperation, Office of the Assistant Secretary of the Army (RDA); Program Executive Officer, Intelligence and Electronic Warfare, Vint Hill Farms Station; and command at the company, battalion and brigade level. He had multiple assignments in systems engineering, computer systems development, and systems modernization in the tactical and strategic intelligence community prior to his selection for general officer in 1987.

His academic credentials include an M.B.A. degree in automated data processing from Texas Technical University and a B.S. degree in business administration from Saint Norbert College. He is also a graduate of the Infantry School Basic Course, the Military Intelligence School Advanced Course, the Army Command and General Staff College, and the Naval War College.

Campbell is a member of the Army Acquisition Corps, and a recipient of the Legion of Merit with four Oak Leaf Clusters (OLC), the Bronze Star Medal with OLC, the Meritorious Service Medal with OLC, the Army Commendation Medal with OLC, the Army Achievement Medal, and the Army Staff Identification Badge.

Caldwell Succeeds Beauchamp as AMC DCS for RD&A

MG John S. Caldwell Jr., former Director of the Army Digitization Office, has succeeded MG Roy Beauchamp as Deputy Chief of Staff for Research, Development and Acquisition, HQ, Army Materiel Command. Beauchamp has commanded command of the Army Tank-automotive and Armaments Command in Warren, MI.

A graduate of the U.S. Military Academy, Caldwell holds an M.S. degree in mechanical engineering from Georgia Institute of Technology and has completed the Program Management Course at the Defense Systems Management College, the Industrial College of the Armed Forces, the Army Command and General Staff College, and the Armor Officer Basic and Advanced Courses. Caldwell is a member of the Army Acquisition Corps.

Listed among his previous tours of duty are Assistant Deputy for Systems Management, Office, Assistant Secretary of the Army (Research, Development and Acquisition); Military Assistant, Major Weapons System Acquisition, Office of the Under Secretary of Defense (Acquisition Reform); and Project Manager, Abrams Tank System.

Caldwell's military honors include the Silver Star, Defense Superior Service Medal, Legion of Merit with Oak Leaf Cluster (OLC), Bronze Star Medal, Meritorious Service Medal with two OLC, Air Medal, and the Army Commendation Medal with OLC.

BG Bond Named Army Digitization Office Director

BG William L. Bond is the new Director of the Army Digitization Office, succeeding MG John S. Caldwell Jr., who is the new Deputy Chief of Staff for Research, Development and Acquisition at Headquarters, U.S. Army Materiel Command, Alexandria, VA. Bond, a member of the Army Acquisition Corps, previously served as the Special Assistant for Acquisition Reform in the Office of the

Under Secretary of Defense (Acquisition and Technology).

Backed by more than 27 years of active military service, Bond served earlier tours as Deputy Program Executive Officer, Program Executive Office, Field Artillery Systems, Picatinny Arsenal, NJ; Commander, Defense Plant Representative Office, Bell Helicopter Textron, Fort Worth, TX; and Deputy Director for Procurement, later Product Manager, Fire Support Command Control Systems, Multiple Launch Rocket System, Program Executive Office Fire Support, U.S. Army Missile Command, Redstone Arsenal, AL.

He holds a B.A. in business administration from Oregon State University, and an M.S. in procurement and contract management from Florida Institute of Technology. In addition, he has completed the Industrial College of the Armed Forces, the U.S. Army Command and General Staff College, the Defense Systems Management College, and the Air Defense Artillery School, Basic and Advanced Courses.

Cross Takes Over As AAESA Director

COL James B. Cross, former Project Manager for Mobile Electric Power, has assumed new duties as Director of the Army Acquisition Executive Support Agency, Office of the Assistant Secretary of the Army (Research, Development and Acquisition). He succeeds COL James A. Thomas, who retired on May 1, following more than 27 years of active military service.

Backed by more than 28 years of military service, Cross has served in a broad range of assignments, including Chief, Program Management Division, Office of the Assistant Chief of Staff for Ammunition, HQ, Army Materiel Command; Commander, Seneca Army Depot, Romulus, NY; Commander, 6th Ordnance Battalion (Ammunition), Korea; and Program Executive Staff Officer, Program Executive Office for Ammunition, Alexandria, VA.

Cross graduated from the University of Dayton with a B.S. degree in chemistry in 1968 and was a "Distinguished Military Graduate" of the Reserve Officers Training Corps where he was commissioned a second lieutenant in the Ordnance Corps. In 1970, he earned his Ph.D. in nuclear chemistry from Michigan State University.

Additionally, Cross, a member of the Army Acquisition Corps, is a 1991 graduate of the Industrial College of the Armed Forces, has completed the Defense Systems Management College Program Managers Course, the Naval Command and Staff College, the Project Managers Development Course, the Ordnance Officers Advance Course, the Conventional Ammunition Officers Course, and the Ordnance Officers Basic Course.

Cross is a recipient of the Legion of Merit with Oak Leaf Cluster (OLC), the Meritorious Service Medal with two OLCs, the Army Commendation Medal with OLC, the Parachutist Badge and the Army General Staff Identification Badge.

NEW E-MAIL ADDRESS AND PHONE NUMBERS FOR ARMY RD&A MAGAZINE

Army RD&A magazine has a new e-mail address. It is:
bleicheh@aaesa.belvoir.army.mil

Our new phone numbers are DSN 655-1035/36/38
or commercial (703) 805-1035/36/38.

PROCUREMENT MANAGEMENT ASSISTANCE PROGRAM

The Deputy Assistant Secretary of the Army (Procurement) (DASA(P)) is responsible for providing responsive, responsible acquisition management and execution of procurement functions Armywide. The DASA(P) also provides oversight of the organizations, resources, policies and procedures related to the management and execution of procurement throughout the Army.

By Geneva Halloran

tant and is the responsibility of the PARCs. The DASA(P) Team will look at PARC Office oversight programs, but will no longer review contract files to check for compliance. Instead, the

Background

The Procurement Management Review (PMR) Program was chartered, by Army Regulation 715-11, dated November 1981, to accomplish the DASA(P) oversight responsibility. The theory behind the PMR Program was to review selected contracting offices, as well as offices of the Principal Assistant Responsible for Contracting (PARC), every three years. A written report was provided outlining problems, trends and recommendations for corrective action. Although some PARC offices were reviewed, in practice, most Office of the Deputy Assistant Secretary of the Army (Procurement) (ODASA(P)) PMRs were of contracting offices. However, it was impossible to review all contracting and PARC offices every three years. It was clear that because of changes taking place within Army acquisition due to reduced resources and acquisition reform, the PMR Program would have to be altered to ensure it met the rapidly changing needs of Army leadership and the contracting community.

A review of the PMR Program found that everyone was not involved in the process. Armywide issues were not being addressed because reviews were focused on individual contracting organizations and not the Army as a whole. The program reported on acquisition reform initiatives, but was not used to drive acquisition reform. What was preventing effective and efficient performance was not being determined. Additionally, reviews were not tied to Army and activity goals, objectives and strategic plans. The review found that the PMR Program must be revised to improve the effectiveness and efficiency of Army procurement operations and management.

Developing The Concept

The first step toward developing a new program was to further develop the concept. We wanted to remove any "gotcha" mentality from our reviewers and to overcome the perception that we are out to find something wrong. We decided that we must build trust and make it clear that the intent of the program is to make it easier for contracting people to better serve their customers and the soldiers in the field.

No longer can the DASA(P) Team be in the business of overseeing contract compliance to laws, regulations and policies. However, contract compliance continues to remain very impor-

team will be management consultants helping contracting personnel find ways to do their jobs better, faster and easier. The focus will be on outcomes and results, and will address issues and trends that impact the whole Army, not just individual contracting offices. The new concept can only be accomplished by a teaming effort between the DASA(P) and the PARC Offices. In fact, we anticipate the ODASA(P) and PARCs teams will supplement each other.

Program Goals

The program focus must be on communications and assistance. We want issues surfaced so they can be worked through and their solutions communicated Armywide. We will talk to people on a non-attributive basis so that there will be less hesitation in raising issues. We want to know what is working so it can be shared throughout the Army. Also, we want to know what isn't working so that by sharing it, the contracting community won't repeat mistakes. As an advocate for the field, the Procurement Management Assistance (PMA) Team will help fix problems identified during the assessments. As we become aware of issues that require action at Headquarters, Department of the Army (DA) and higher levels, we will ensure action is taken and the results are communicated throughout the Army. We want this program to be a cooperative effort with shared goals. We also recognize that one size does not fit all, and we will need to tailor assessments to the unique nature and needs of individual organizations.

The review resulted in a new concept—the Army Procurement Management Assistance Program (PMAP). The PMAP mission is to provide an interactive framework emphasizing communication and assistance throughout the Army. Analysis, identification of best practices, and other information will allow the assessment of the health of Army procurement operations, organizations and management and will provide a forum for solution and development of issues. The thrust of the PMAP will be to effect change for continual improvement. The PMAP is designed to provide management consultant-type services to enhance and assist the procurement process. Compliance review and reporting by DA is not PMAP's objective. The PMAP concept requires total Army contracting involvement—DA, PARCs and individual contracting offices.

Integrated Process Team

To begin the process, we formed an integrated process team (IPT) to review the new PMAP concept and provide input into

the program. The IPT was made up of representatives from Headquarters, Army Materiel Command (AMC), U.S. Army Forces Command (FORSCOM), U.S. Army Training and Doctrine Command (TRADOC), U.S. Army Corps of Engineers (USACE), the National Guard Bureau and ODASA(P). The IPT was responsible for defining and focusing the PMAP concept and assisted in rewriting AR 715-11 to incorporate the new concept. The AR has been converted to an AFARS Appendix so that the guidance can be easily modified as changes take place in the PMAP.

Objectives

The objectives of the PMAP are:

- To provide assistance and assessment of the effectiveness and efficiency of Armywide procurement through outcome based analysis, measuring actual achievement against stated goals;
- To communicate the results of assessments and analyses throughout the Army;
- To provide management consultant services for the Army to enhance and assist the procurement process.

Approach

The PMAP emphasizes goal setting, strategic planning, metrics, the flow of information, and will address improvements in contracting policies and procedures. It assesses the health of Army procurement and provides for the exchange of information and advice on lessons learned, best practices, mitigation of barriers to effective change, training needs, and opportunities for continuous improvement.

Procedure

Procurement Management Assistance visits will be conducted according to a published schedule of sites that are: (1) selected by the PMAP Team; (2) requested by PARCs; and (3) directed by Army leadership. Organizations will be notified of the date of the assistance visit and will be asked to provide, in advance, statistics, orientation data and areas of particular concern for which the activity wants to place special emphasis. PMA assessments will target the topics outlined in the DASA(P) *Memorandum of Dec. 31, 1996, Subject: Areas of Specific Interest for FY 97*. As focus and emphasis change within the Army and new issues and areas of interest develop, the PMAP will incorporate the new emphasis into its assessments.

The PMAP will assess many different areas, to include the PARCs Strategic Plan and the progress made toward achieving their plan; their Contracting Oversight Program; the command programs and Strategic Plan; good news stories; issues facing contracting offices; metrics; and how information flows within organizations and between functions.

The PMAP Team will accompany and assist PARC Teams on selected reviews of subordinate contracting offices and frequently, the PMAP Team will request PARC participation in assistance visits conducted at the direction of Army leadership. Issues, trends and improvements will be communicated Armywide via the PMA Newsletter found on the Army Acquisition Website at <http://acqnet.sarda.army.mil> under News/Upcoming Events.

Concept Test

The PMAP concept was presented at the November 1996 Army Procurement Conference. Volunteers were solicited to be test sites to validate and refine the PMAP concept. The PARCs from the U.S. Army Communications-Electronics Command

(CECOM) and the U.S. Army Medical Research and Materiel Command (MRMC) offered their organizations as sites for the members of the PMAP IPT to perform an assessment using the new PMAP approach. The CECOM test assessment was performed Jan. 27-29, 1997, and the MRMC's was performed Feb. 10-13, 1997. Thanks to the efforts of these PARCs and their staffs, the PMAP IPT was able to define the concept so that the PMAP could be implemented Armywide. Additionally, at these sites the team identified several excellent acquisition initiatives that have been disseminated throughout the Army to assist the procurement process.

Concept Test Findings

To provide the greatest assistance, the PMAP Team will be made up of members with diverse contracting backgrounds. For example, the TRADOC and FORSCOM members of the IPT were able to offer contracting solutions developed for BASOPS-type requirements that can be adapted for use at CECOM and MRMC. To ensure diversity of background of PMAP Team members, the PARCs will be offered the opportunity to provide representatives to participate in PMAP assistance visits.

The legal team member, in addition to analyzing the quality of overall legal support and advice provided to the contracting process, will assess the legal support of acquisition reform initiatives. The legal team member will provide a strong, positive advocacy of acquisition reform and provide assistance and guidance on methods to enhance and promote acquisition reform.

The IPT found that the non-attributive interviews with contracting customers and contracting personnel are the most important part of the assessment. The discussions provide an excellent opportunity for the exchange of information. The IPT found that dividing into two- or three-person sub-teams provided the best method for interviewing. The discussions are more relaxed and open because those being interviewed do not feel they are being "grilled" by a panel.

The PMA Team will work closely with all elements within the Office of the DASA(P) in order to resolve issues surfaced during the assistance visits. The two test assessments resulted in 24 issues and recommendations to be worked at Headquarters, AMC and the ODASA(P). We developed a system to task and track the actions to ensure timely responses are provided to the field. Any issues with total Army application will be communicated Armywide. Additionally, when a need for training and information or additional guidance and clarification on particular initiatives is identified, we will work with the responsible element within the ODASA(P) to ensure the issue is addressed through a site visit by the subject matter expert or by formal training. For example, when our assessment of MRMC revealed a need for customer training on the Purchase Card Program, Bruce Sullivan, ODASA(P), performed an on-site assistance visit.

Many organizations are not doing effective strategic planning. The FORSCOM Strategic Plan has been identified as one of the better plans in the Army. In an effort to assist organizations, the PMA Team notified the PARCs of the availability, on the Internet, of the FORSCOM Strategic Plan to be used as a guide in the plan development process.

The PMA Team notification letter of an impending visit identifies the statistical, organizational and other administrative information required for the assessment. Our experience has been that waiting until we are on-site to get the information is very time-consuming and detracts from the time available for interviews and discussions. Future notification letters will require as much of this

information as practicable be provided prior to our visit.

A draft assessment report is provided at the conclusion of the assistance visit. Our goal is to provide the final report within 45 days of the visit. In keeping with our management consultant role, we stress that no formal reply addressing our comments and recommendations is necessary. However, we do encourage follow-on communication, if necessary, to clear up any ambiguities and to assist in future issue resolution.

One of the missions of the PMA is to communicate Armywide the results of our assessments, and to identify and communicate good news stories, best practices, lessons learned, methods of overcoming barriers to efficiency and change, acquisition reform initiatives and policy changes. To accomplish this we established a PMA Newsletter on the SARDA Homepage at the aforementioned Website.

PMA schedule preference will be given to contracting commands reporting directly to the DASA(P). These organizations do not have oversight and assistance from headquarters such as AMC, TRADOC, FORSCOM or USACE and will derive the greatest benefit from a PMA visit.

Conclusion

The PMA is designed to provide management consultant services to assist the Army contracting community in enhancing the procurement process and achieving the efficiencies and effectiveness required to sustain support of our forces. The program

emphasis is on communications and assistance throughout the Army and effecting change for continual improvement in the procurement process.

The PMA Team continues to look for ways to improve the program in order to better assist the Army contracting community. We welcome your comments and recommendations. Please send them via e-mail to: hallorag@sarda.army.mil, or call commercial (703)681-7566, or DSN 761-7566.

GENEVA HALLORAN is the Team Leader for the Procurement Management Assistance Program in the Office of the Deputy Assistant Secretary of the Army (Procurement), Office of the Assistant Secretary of the Army (Research, Development and Acquisition). She holds a B.S. degree in business administration from the University of Missouri—St. Louis, and an M.S. degree in national resource strategy from the Industrial College of the Armed Forces. She is also a graduate of the Defense Systems Management College Program Management Course, has completed the Senior Acquisition Course and is a member of the Army Acquisition Corps with level three certification.

Army Cost Reduction Planning A Success

The acquisition community responded admirably to Army leadership direction to apply proven cost reduction techniques to all acquisition programs in order to free up total obligation authority for modernization and other urgent requirements. Through execution of cost reduction plans on all its systems, the Army will harvest over **\$1 billion through FY03** and more than **\$11 billion through FY12**. This represents real savings, which will be refocused to some of the Army's critical modernization efforts. Many acquisition professionals in the program executive office (PEO) structure and throughout the Army Materiel Command participated in the rigorous cost reduction and reinvestment effort along with staffs of the Deputy Chief of Staff for Operations and the Director for Program, Analysis and Evaluation. Requirements were not changed without consensus, and the savings were generated by prudent planning for multiyear procurements, program restructuring, and other streamlined business measures.

Flexible Long Term Contracts A Cycle Time Reduction Success Story

Normal contracting time for sustainment items, using sealed bids, historically averaged 180 days. The U.S. Army Communications-Electronics Command (CECOM) Acquisition Center has demonstrated that this time could be reduced to

fewer than six days through the use of Flexible Long Term Contracts (FLTCs). The reduced time to award allows for more accurate forecasting of needs and smaller amounts of inventory to be carried. CECOM has saved a significant amount of money by reducing the inventory safety level. FLTC uses one contract to award multiple "like-technology" stock items. It is three to five years in duration. FLTCs are pre-priced, similar to a Sears catalog. Forty logistics personnel have been trained in their use and empowered, as ordering officers, to place delivery orders. Minimal oversight is required by the procuring contracting officer. Economies of scale are maximized. Cycle time and costs also are reduced on a systematic basis. In FY96, 13 contracts were utilized by the CECOM Acquisition Center to obligate 629 secondary items. This was 79 percent of the FY96 Defense Base Operations Fund Budget. Using old methods, over 600 contracts would have had to be let. *Lithium batteries* are one of CECOM's lead time reduction success stories. Since September 1994, administrative and procurement lead times have been reduced 72 percent to a 186-day cycle. An Integrated Product Teaming concept was used to pre-plan and develop acquisition strategies, ensuring continuity of soldier support and readiness. In September 1996, CECOM awarded two five-year FLTCs for batteries. Contract awards occurred from one solicitation, using best value and performance based specifications, requested via the command's electronic bulletin board. The acquisition utilized the Life Cycle Cost Model, in lieu of cost as an independent variable, because this tool was more appropriately applied to the commodity being sought. There is an evaluated option available on these contracts to implement the Direct Vendor Delivery/Just-in-Time/ Electronic Data Interchange Program during FY98. The point of contact for this article is Rosemary McGovern, DSN 992-3818, e-mail: mcgoverr@doim6.monmouth.army.mil.

Small Business Innovation Research Tapping Small Business to Meet Army Needs

Thanks to the **Small Business Innovation Research (SBIR)** program, the Army has tapped the small business community for high-quality, innovative, and commercial-potential R&D products and services since the program's inception in 1983. The Army's annual \$100 million SBIR budget, which comes from a mandated 2.5 percent assessment on the Army extramural R&D budget, is used to fund hundreds of relevant Phase I (six-month \$100K feasibility demonstration) and follow-on Phase II (two-year \$750K R&D) efforts annually. SBIR funds are not used for the so-called commercialization phase (Phase III) (See note at the end of this article) in which the small business is expected to sell its products or services to industry or the government.

SBIR Operating and Support Cost Reduction - At the suggestion of Dr. Kenneth Oscar, Deputy Assistant Secretary of the Army (Procurement), the Army moved in 1996 to increase SBIR efforts directed at the critical high-payoff area of **operating and support cost reduction**. Thirty-five of 179 (20 percent) SBIR topics in the May 1996 solicitation resulted in 69 out of 290 (24 percent) Phase I awards. Performance exceeded Dr. Oscar's goal of 15 percent at every stage. Examples of **OSCR Phase I projects** nearing completion which will soon compete for follow-on Phase II contracts are:

- **Inflatable Airbeams**—reduce weight, transport, and deployment costs of field structures;
- **Compact 15/1 Compressor**—improve small gas turbine efficiency; and
- **Advanced Polymers for Soil Remediation**—regenerate Army facilities.

Getting SBIR Contracts Out Faster - Dr. Paul Kaminski, former Under Secretary of Defense (Acquisition and Technology), commended the Army for **drastically shortening award times on Phase I & II contracts** during 1996, shortening over 95 percent of Phase I projects within four months and over 80 percent of Phase II projects within six months of proposal receipt. The Army continues to seek ways of reducing these timelines even further.

NOTE: For Army Phase III Success Stories and information on Phase II Quality Awards Program, visit the SBIR Homepage at: <http://www.aro.ncren.net/arowash/rt/sbir.htm>.

Procurement Management Mentorship Program

The Functional Chief Representative for Career Program 14 established a formal **mentoring program for Contracting and Acquisition** careerists. The initial phase of the procurement mentoring program is a one-year pilot involving the contracting commands and activities in the national capital region. A primary focus of the program is training of both mentors and mentees to ensure complete understanding of the program's objectives. Anticipated benefits of the program include: professional development and growth; increased self-esteem; greater job satisfaction; renewed vitality for the profession; enhanced organizational feedback; increased productivity; increased awareness of the organization; increase in opportunities for success; increased innovativeness and creativity; and broader strategic vision. For more information, contact Mary Fitzgerald at (703)697-8298 or Esther Morse at (703)695-3039.

VE Class Deviation Allows DOD Contractors To Keep Up To 75 Percent Of Savings

Director of Defense Procurement Eleanor Spector has authorized a class deviation to Federal Acquisition Regulation cover-

age on **value engineering (VE)** that increases contractor incentives to submit value engineering change proposals. The class deviation, requested by the Army, authorizes all military departments and Defense agencies to deviate from the requirements of FAR 48.001, 48.102, 48.104, 48.201, and the clause at FAR 52.248-1, **Value Engineering**, when providing value engineering incentives to contractors. The deviation changes the sharing period from the current three years to a range of three to five years; the incentive sharing arrangement from the current fixed rate for the contractor of 50 percent to a range of 50 to 75 percent; and the current fixed contractor shared collateral savings rate of 20 percent to a range of 20 to 100 percent of the estimated savings to be realized for each VECP during an average year of use. FAR 48.201 requires the use of the clause at 52.248-1 when providing a value engineering incentive. The deviation is approved for a two-year period ending March 31, 1999, or until the FAR is revised, whichever occurs first.

For additional information on these Acquisition Reform articles, contact LTC L. Hooks on (703)681-9479 or e-mail: hooks1@sarda.army.mil.

Revised Army Acquisition Policy Regulation

The Army's capstone acquisition policy regulation, AR 70-1 recently underwent an extensive revision. The latest version of this popular regulation incorporates many of the most important features of the updated version of the DOD 5000 series policy directives. In addition, AR 70-1 merged with AR 25-3, Automated Information Systems and consolidated AR 700-86, Clothing and Individual Equipment and AR 702-3, Reliability and Maintainability.

A summary of policies incorporated in the new regulation include:

- **Matrix support for programs.** The materiel developer shall decide on the source of matrix support, either by a materiel command or the contractor, based on the best value for the Army consistent with OMB Circular A-76.
- **Army Acquisition Workforce Policy.** The revised regulation specifies that accession into the Acquisition Corps requires that all critical positions (LTC and GS-14 and above positions) must be enumerated by members of the Army Acquisition Corps. Minimum accession requirements are determined by DOD 5000.52-M and include training, education, experience and acquisition certification. The Director, Acquisition Career Management approves all AAC accessions.
- **Acquisition Management.** Acquisition Career Management Advocates are representatives of PEOs and MACOMs (and AMC major subordinate commands), designated to be the command's primary point of contact for that command's Army Acquisition workforce members on issues relevant to career management and professional development.
- **Software Improvement and Reuse.** The Army Software Process Improvement Program establishes continuous software development capability within the Army software activities. Materiel developers will encourage the identification and reuse of common software development, test, operating, maintenance and support environments.

- **Type Classification.** The new AR 70-1 eliminates type classification designations Low Rate Production, Contingency and

Obsolete while retaining designations for Standard, Generic and Limited Procurement programs.

- **Reliability and Maintainability (R&M).** R&M policy is no longer contained in AR 702-3 and focuses on achievement of operational requirements and operating and support cost targets. Materiel developers are to participate in combat or training developer efforts (e.g. Integrated Concept Teams, Analysis of Alternatives) to establish R&M and other systems requirements. An expanded section on defining R&M requirements has been added to the revision.

Another regulation, AR 700-86 (Clothing and Individual Equipment) has been added to AR 70-1. Items captured under this section are relatively low cost that are worn by the individual soldier. This includes clothing bag items and dress uniforms, optional uniforms, and organizational clothing (e.g. cold weather, combat vehicle crewman, aircrew).

With the pending release of the new AR 70-1, efforts are already under way to update the companion document on procedures, DA pamphlet 70-3.

AATD Program Wins Award

A phase II Small Business Innovation Research (SBIR) program, managed by the Aviation Research, Development and Engineering Center's Aviation Applied Technology Directorate (AATD) at Fort Eustis, VA, in conjunction with InnovaTech Inc., has been selected as one of five winners of the 1997 Army SBIR Phase II Quality Awards. Entitled "Novel Inlet Protection System for Auxiliary Power Units," the program was undertaken in response to desert operations experience which have demonstrated a need for substantial improvements in inlet protection systems (turbine engines).

Specifically, sand ingestion causes severe performance degradation, excessive wear, increased maintenance and, eventually, premature failure of the engines. In order to extend the life of helicopter main engines and auxiliary power units (APUs) in severe sand environments, new and innovative inlet protection system concepts and technologies must be explored.

Existing inlet particle separators (IPSs), utilizing conventional inertial or vortex-tube type designs, are capable of removing large sand particles, but experience a dramatic decrease in removal efficiency as particle sizes decrease. For example, extremely fine sand particles below 10 microns in diameter, prevalent in the Middle East, proved to be especially problematic during Operation Desert Storm. In addition to efficiency problems, conventional IPS designs have proven difficult to retrofit to existing APUs currently in the field.

During Operation Desert Storm, the entire fleet of military helicopters experienced fine sand ingestion into their turbomachinery, which compromised engine performance and significantly reduced the normal life expectancy of the APUs. Other designs (passive barrier systems, electrostatic precipitators, etc.) have not been able to achieve desired levels of protection without sacrificing required engine performance or hampering operations.

InnovaTech, under Army Contract DAAJ02-95-C-0009 and directed by Stephen P. Kinney, has developed a new innovative prototype retrofit filtration device called a Boundary Layer Momentum Transfer (BLMT) filtration device consistent with requirements for the APU of the Army's Blackhawk Helicopter. The program's goal is to develop a Novel Inlet Particle Separator for Army APUs and to demonstrate sand separation efficiencies of 99 percent C-Spec, 95 percent AC (coarse), and 89 percent AC (fine) with a pressure drop no greater than three percent.

The BLMT filtration device was developed to achieve particle exclusion at a low, constant pressure drop. The physics of the device are expressed in a simple force balance. The inward drag force on a particle opposes that of the outward centrifugal force

transferred to each particle through the boundary layers created by the spinning disks. At a critical particle diameter defined by both the geometric and operational parameters of the device and the airflow/system design characteristics, the two forces balance, and the particle "orbits" the device.

The BLMT disk pack can be visualized as a stack of evenly-spaced circular disks, each having large concentric holes, with disk spacing of a few millimeters or less. Capping one end of this hollow core stack of rotating disks, combined with reduced pressure due to the flow requirements of downstream blowers or fans, forces particle-laden air to be drawn into the perimeter of the rotating disks. The rotation of the disks established a boundary layer on both sides of each disk in the stack. The device pressure drop (from outer edge to inner edge) is caused by the frictional drag of the filtered air traversing the boundary layers. Particles exceeding the cut-off size are excluded from the flow and filtered air exits the housing from the central plenum.

The geometric and operational parameters to which the device has been designed, establish the particle cut-off size, above which particles are actively excluded from the air flow. For example, at this critical cut-off size, the drag force on a particle due to the suction of the downstream equipment exactly balances the expulsion force due to the imparted centripetal acceleration on the particle. This results in the particle orbiting around the disk pack. When the particle size is above this critical diameter, the centrifugal expulsion force dominates this force balance and the particle is expelled away from the perimeter of the spinning disks, typically remaining suspended in the annular space surrounding the disk. Conversely, only particles below this critical size, where the inward drag force is sufficient to overcome the centrifugal force, can pass through the device.

In Phase I of the program, the feasibility of the BLMT filtration device was demonstrated. Dr. Edward J. Shaughnessy Jr., Professor of Mechanical Engineering at Duke University, worked as a consultant to InnovaTech and developed a two dimensional (2-D) computer flow simulation model of the air flow through the filter, based on the BLMT concept for particle filtration.

In Phase II, the 2-D computer model was upgraded to a three dimensional (3-D) computer model. The first BLMT device to be successfully tested consisted of a 30 disk stack which was rotated at 1,000 revolutions per minute for 25 minutes and demonstrated 100 percent efficiency for particle sizes of 25 microns and above.

Two prototype retrofit devices, complete with housing and scavenger port and consisting of 100-disk stacks each, but with different spacing requirements between the disks, have been fabricated and will be tested on an APU at AlliedSignal Engines in Phoenix, AZ, in the near future. Experimental validation tests continue with various sizes of disks (both inside and outside diameter variations), different inter-disk spacings, as well as variations in flow throughput rates.

Results of this Army Phase II SBIR program will have significant impact on both commercial and military turbine engine programs, particularly in sustaining overall powerplant power, significantly decreasing maintenance, improving service turn-around time, significantly decreasing powerplant wear and erosion and improving powerplant survivability in extremely harsh environments.

The point of contact for this program is Stephen P. Kinney at (757) 878-1763.

The preceding article was written by Stephen P. Kinney, an employee at AATD.

Linear Signal Processing For Reliability Engineering

Eliminating guess work from testing has been a long sought goal for the research, development, test and evaluation community. Now, a new theory using the principles of linear signal processing could potentially help in achieving that goal. The PATRIOT Project Office in Huntsville, AL, hopes to develop a model to achieve the inherent reliability of various systems by using this model. In the era of streamlining and designing weapon systems for long life, precise testing becomes an important part of the development of a reliable product. A description of this theory has been presented in a published paper, titled "A Pansophic Approach for Reliability Growth for One-Shot Devices," MICOM Technical Report RD-TM-96-1, March 1996, by Mike Danesh from the PATRIOT Project Office. For additional information, contact Mike Danesh on commercial (205)955-3656 or DSN 645-3656.

The Wisdom of Teams: Creating the High-Performance Organization

By Jon R. Katzenbach and
Douglas K. Smith,
Harvard Business School Press, 1993

Reviewed by LTC Kenneth H. Rose (USA, Ret.), a project manager with Waste Policy Institute in San Antonio, TX, and former member of the Army Acquisition Corps

Teams are a topic of continuing, contemporary interest. Much has been written about them and their promise as a path to a better future. Yet, when two people talk about teams, they often talk about different things. A book by Jon R. Katzenbach and Douglas K. Smith, *The Wisdom of Teams*, does much to clarify and codify the concepts, characteristics, and contributions of teams in today's work environment.

The book is a summary of research results obtained by the authors through study of more than 50 teams in more than 30 companies. It is divided into three sections that individually address understanding teams, becoming a team, and exploiting the potential of teams. Initially, it appears to be a book of lists. The reader soon appreciates this as a convenient way to organize the extensive, interrelated data.

The authors describe three general types of teams: teams that run things, teams that make or do things, and teams that recommend things. Each plays a different role in the work place. Each presents different possibilities and challenges. The authors begin the journey from the end; that is, the first page of Chapter 1 describes lessons learned. The four key points that appear here provide a compelling reason to read on. The authors also describe resistance to teams in terms that will sound familiar to military or corporate readers.

Most important, Katzenbach and Smith address early the difference between teams and teamwork. A team is a discrete

unit of performance; teamwork is a set of values that encourages behaviors such as listening, constructive response to other points of view, and support to other workers. This is an important distinction that separates a team—a performance group—from teamwork, which could be beneficial in any kind of group, team or not. The authors also point out that teams are not the solution to every problem or every organizational need. They warn that a team applied in the wrong situation can be wasteful and disruptive. The key is to understand what teams are and the discipline necessary for their success.

By the authors' definition, a team is a small number of people with complementary skills who are committed to a common purpose, performance goals, and approach for which they are mutually accountable. Teams typically comprise fewer than 20 people, often fewer than 10. Groups larger than this are too cumbersome to allow the interactions essential to teams, so they usually break into smaller groups to form teams as needed.

Teams develop a set of complementary skills, including technical, problem-solving, decision-making, and interpersonal skills. Research disclosed that all skills need not be equally present when the team is formed; skills need not be a driving factor in selecting team members. Teams are a powerful medium for personal growth. Members quickly identify skill gaps and develop the capabilities that will fill them.

The most important factor in team formation is a performance need—a common purpose—and the most important factor in team success is commitment to that purpose. Forget about all the corporate calls for teamwork, all the motivational posters, and even the cajoling remarks about being team players. Teams arise because work performance demands a team, and they thrive because the members are committed to the performance demand and to each other.

Commitment to each other is the foundation of the team approach and mutual accountability. Teams establish a workload distribution in which all contribute and all share the load. Work is based on trust between members and a sense of accountability to each other. Although it is mentioned last, this aspect is not trivial. The authors define a high-performance team as one that performs far better than other teams. They attribute the emergence of these rare teams to an exceptional degree of personal commitment among team members to one another's growth.

All of this—the definition of "team" and the associated explanation—is explored in the book through illuminating examples from real-world experience. The example of the "log cell" team, led by COL Randy Geyer during follow-up actions to Operation Desert Storm, will be of particular interest to Army readers.

Army readers may find special value in all of Chapter 7, Team Leaders, in which Colonel Geyer's experience is discussed, and also Chapter 8, which addresses team obstacles and endings. Both chapters are highly relevant in a project or program management environment where teams are more real than theoretical.

Performance is the unifying theme throughout the book. Teams are a matter of substance, not form. They are generated by a large-looming performance challenge, not by team-building classes, cheerleading, or bravura. The measure of a team is in its achievements, not its structure. Read the book. Study its message. The destination is well worth the trip.

Defense Technical Information Center Holds Conference

The Defense Technical Information Center (DTIC) is presenting its DTIC '97 Annual Users Meeting and Training Conference on Nov. 3-6, 1997, at the DoubleTree Hotel, National Airport, Arlington, VA. The theme, Information in the New Millennium, reflects DTIC's goal to assist customers in meeting tomorrow's challenges by providing the most relevant information in the most appropriate format as quickly as possible.

This meeting provides an opportunity to explore in detail new developments at DTIC and throughout the federal information network. Keynote speakers are: Dr. Charles McClure, School of Information Studies, Syracuse University; Mary Beth Peters, Copyright Office, Library of Congress; and Cliff Bernath, Assistant Secretary of Defense, Public Affairs.

The conference will address the latest policy and operational developments and practical details on valuable and

diverse domestic and foreign information resources, security issues, the World Wide Web, copyright and the storage and dissemination of electronic documents.

Additional conference information is available at <http://www.dtic.mil> or from Julia Foscue at (703)767-8236 or by e-mail at jfoscue@dtic.mil.

Applied Statistics Conference

The Army Conference on Applied Statistics will be held Oct. 22-24, 1997, at George Mason University in Fairfax, VA. Sponsored by the Army Research Laboratory, the conference provides a forum for technical exchange of information on statistical applications. Attendees include DOD personnel and their university and industry associates. A tutorial on "Virtual Reality and Scientific Visualization" will precede the conference on Oct. 20-21. Requests for information should be directed to Dr. Barry Bodt, U.S. Army Research Laboratory, ATTN: AMSRL-IS-CI, Aberdeen Proving Ground, MD 21005-5067; babodt@arl.mil; (410)278-6659.



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ARMY RD&A WRITER'S GUIDELINES

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Army RD&A is a bimonthly professional development magazine published by the Office of the Assistant Secretary of the Army (Research, Development and Acquisition). The address for the Editorial Office is: DEPARTMENT OF THE ARMY, ARMY RDA, 9900 BELVOIR RD SUITE 101, FT BELVOIR VA 22060-5567. Phone numbers are: Commercial (703)805-1035/1036/1038 or DSN 655-1035/1036/1038. Datafax: (703)805-4218 or DSN 655-4218. E-mail addresses for the editorial staff are as follows:

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Purpose

To instruct members of the RD&A community relative to RD&A processes, procedures, techniques and management philosophy and to disseminate other information pertinent to the professional development of the RD&A community.

Subject Matter

Subjects of articles may include, but are not restricted to, policy guidance, program accomplishments, state-of-the-art technology/systems developments, career development information, and management philosophy/techniques. Acronyms should be kept to a minimum and, when used, be defined on first reference. Articles with footnotes are not accepted.

Length of Articles

Articles should be approximately 1,500 to 1,600 words in length. This equates to approximately 8 double-spaced typed pages, using a 20-line page.

Photos and Illustrations

Include any photographs or illustrations which complement the article. Black and white is preferred, but color is acceptable. Graphics may be submitted in paper format, or on a 3 1/2-inch disk in powerpoint, but must be black and white only, with no shading, screens or tints. We cannot promise to use all photos or illustrations, and they are normally not returned unless requested.

Biographical Sketch

Include a short biographical sketch of the author/s. This should include the author's educational background and current position.

Clearance

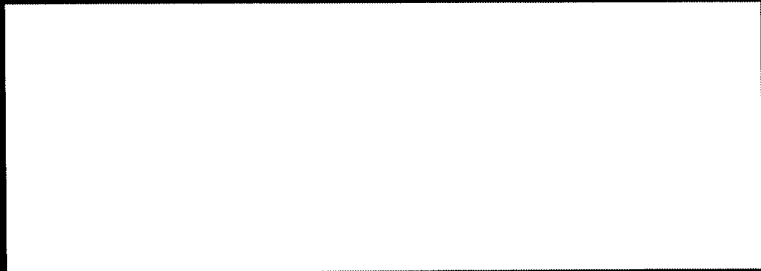
All articles must be cleared by the author's security/OPSEC office and public affairs office prior to submission. The cover letter accompanying the article must state that these clearances have been obtained and that the article has command approval for open publication.

Offices and individuals submitting articles that report Army cost savings must be prepared to quickly provide detailed documentation upon request that (1) verifies the cost savings; and (2) shows where the savings were reinvested. Organizations should be prepared to defend these monies in the event higher headquarters have a higher priority use for these savings. All Army RD&A articles are cleared through SARD-ZAC. SARD-ZAC will clear all articles reporting cost savings through SARD-Rt. Questions regarding this guideline can be directed to SARD-ZAC, Acquisition Career Management Office, (703)695-6533, DSN 255-6533.

Submission Dates

Issue	Author's Deadline
January-February	15 October
March-April	15 December
May-June	15 February
July-August	15 April
September-October	15 June
November-December	15 August

Authors should include their address and office phone number (DSN and commercial) with all submissions, as well as a typed, self-adhesive label containing their correct mailing address. In addition to providing a printed copy, authors should submit articles on a 3 1/2-inch disk in MS Word, or ASCII format. Articles may also be sent via e-mail to: bleicheh@aaesa.belvoir.army.mil



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